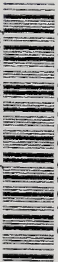


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# Unit Two

## Module 3: Having Fun Adding and Subtracting



# Mathematics



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# Grade Two Mathematics: Module 3

## Having Fun Adding and Subtracting





Grade Two Mathematics  
Student Module Booklet  
Module 3  
Having Fun Adding and Subtracting  
Learning Technologies Branch  
ISBN 0-7741-1694-3

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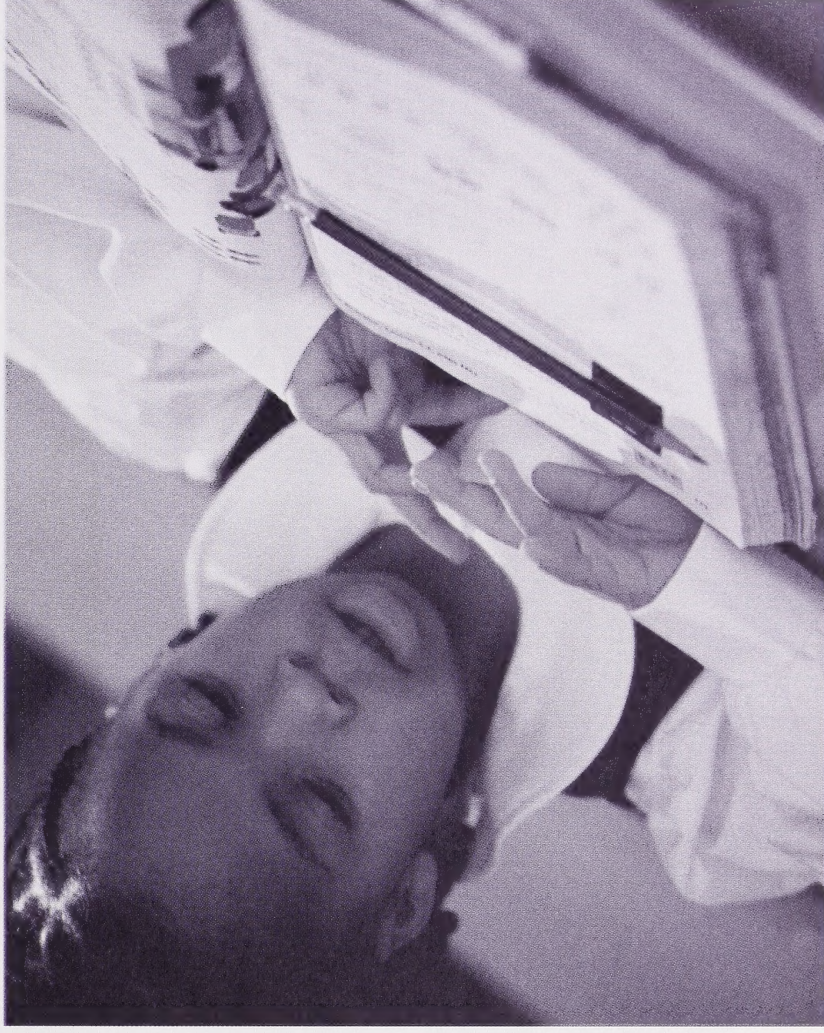
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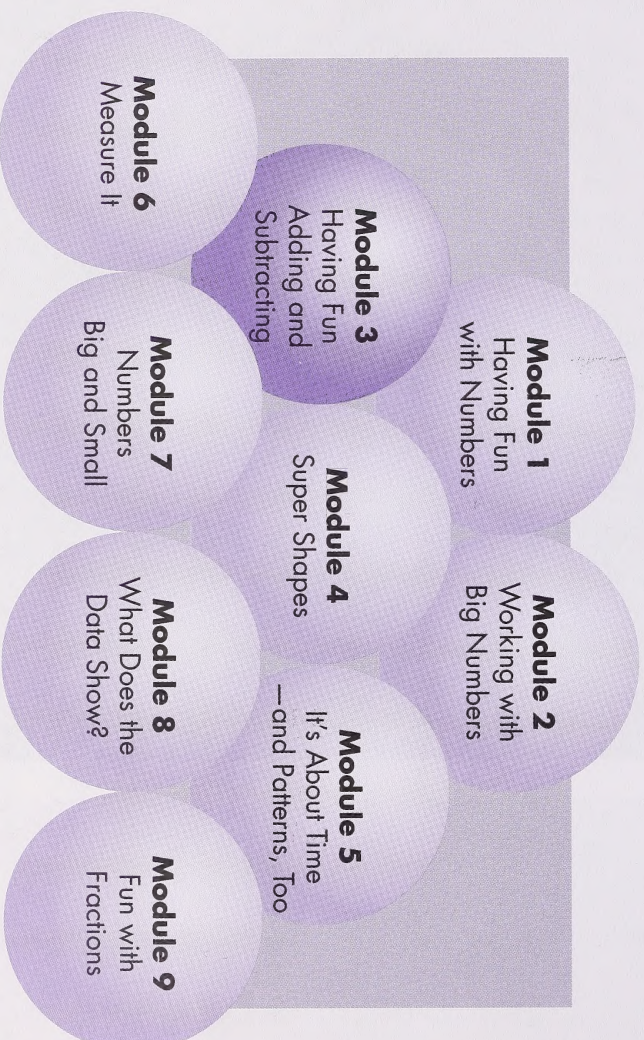
# Welcome to Grade Two Mathematics





Have you ever shared a cookie with a friend? Did you try to break it evenly so that you each got the same amount of cookie? Have you tried to figure out how tall you are? Can you tell how much time you have to do something? How much does something weigh? In Grade Two Mathematics, you will learn how to do these activities.

Look at the picture on this page. It gives the titles of the Student Module Booklets you will be using. You are using Module 3: Having Fun Adding and Subtracting.

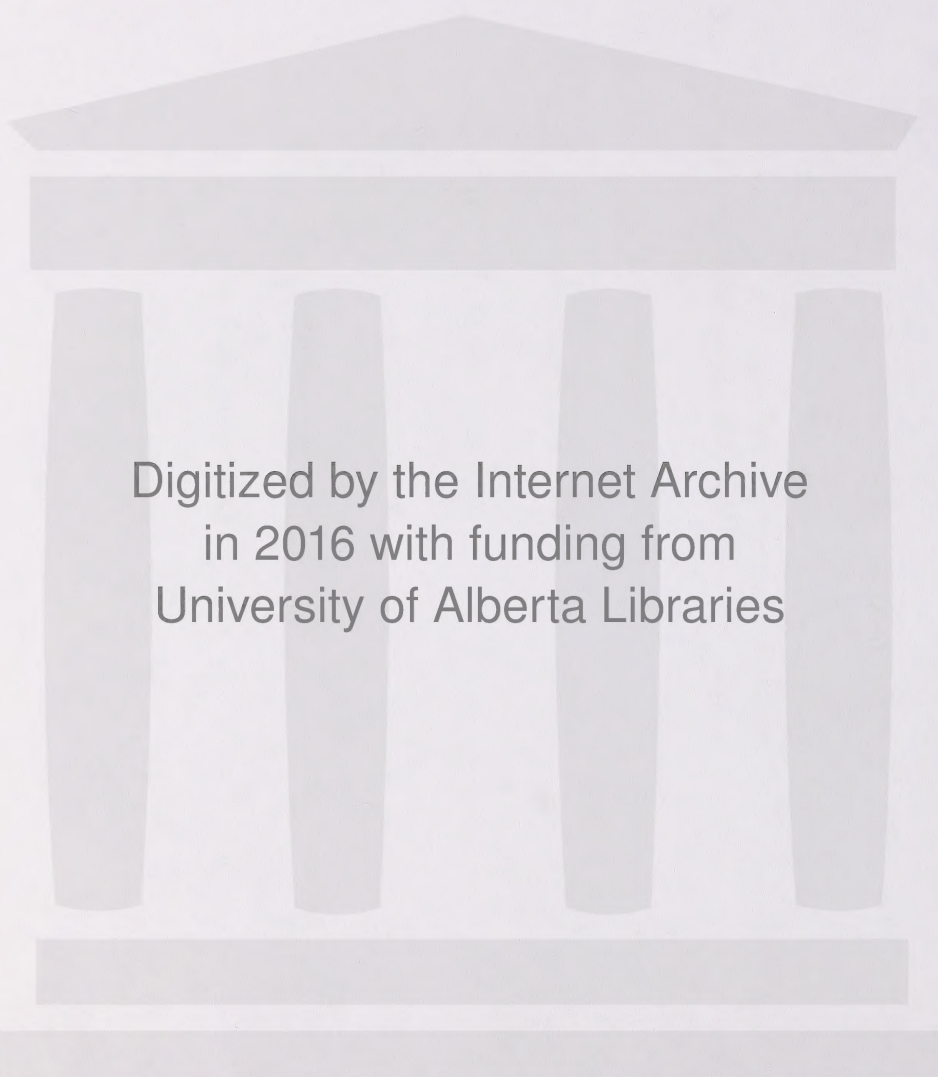




# Contents

<b>Module 3: Having Fun Adding and Subtracting ...</b>	<b>I</b>	<b>Day 11: Ways to Help You Subtract</b>	<b>105</b>
<b>Day 1: Looking Back</b>	<b>3</b>	<b>Day 12: Adding to 100</b>	<b>114</b>
<b>Day 2: Bird Stories</b>	<b>13</b>	<b>Day 13: Subtracting to 100</b>	<b>129</b>
<b>Day 3: Add Them Up</b>	<b>23</b>	<b>Day 14: Using Two-Digit Numbers</b>	<b>138</b>
<b>Day 4: Addition Families</b>	<b>32</b>	<b>Day 15: Figure This Out</b>	<b>152</b>
<b>Day 5: Take Them Away</b>	<b>42</b>	<b>Day 16: More Figuring</b>	<b>171</b>
<b>Day 6: Time to Subtract</b>	<b>51</b>	<b>Day 17: I Can Do It in My Head</b>	<b>188</b>
<b>Day 7: Subtraction Stories</b>	<b>60</b>	<b>Day 18: Estimating Figures</b>	<b>202</b>
<b>Day 8: Relating Addition and Subtraction</b>	<b>67</b>	<b>Module Summary</b>	<b>213</b>
<b>Day 9: Seeing Double</b>	<b>79</b>	<b>Extension Activities</b>	<b>214</b>
<b>Day 10: Ways to Help You Add</b>	<b>92</b>	<b>Appendix</b>	<b>233</b>





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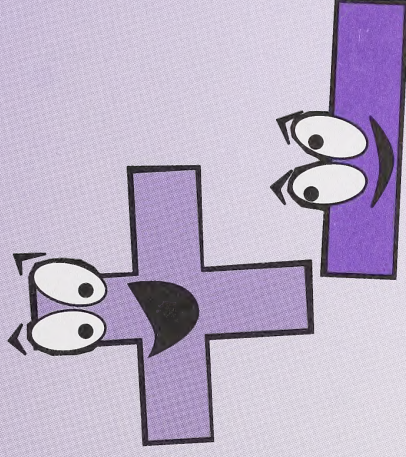
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# Having Fun Adding and Subtracting

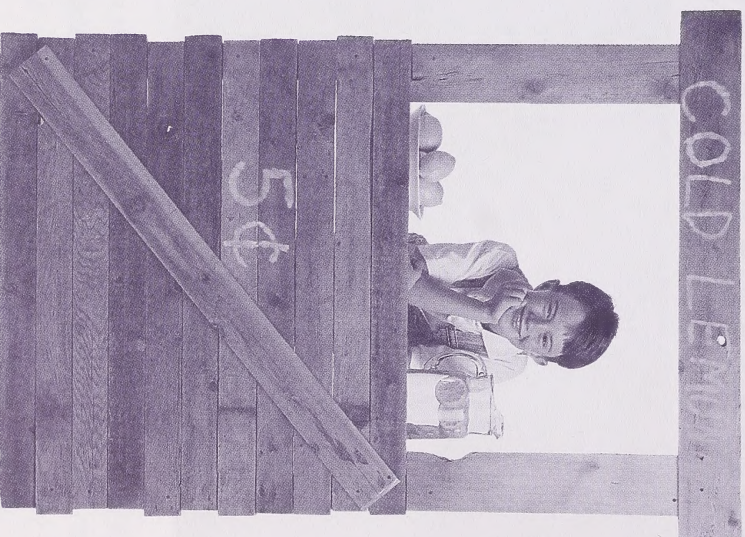
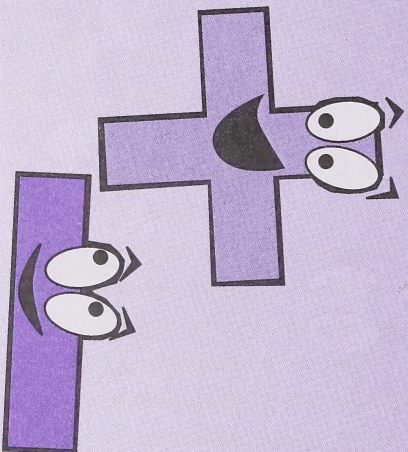


Have you ever played a game with friends and been confused when it came to adding and subtracting spaces and numbers? Have you ever gone to the store with some money but didn't know what you could buy with it? Were the numbers too big to add?





In this module, you will learn how to add and subtract using bigger numbers. You will see how knowing how to add and subtract big numbers can help you in your daily life.





## Day 1: Looking Back

Before you begin to add and subtract numbers, let's see what you remember about reading and writing numbers. You will review the numbers 1 to 100.

There are also words that tell you things about numbers that are important to know. See what you remember about them. It's time to begin.





See how well you remember what you learned in Module 1.

1. Print the missing numbers.

a. 35, 36, , , 39

b. 46, 47, 48, ,

c. , , 81, 82, 83

d. 27, , , , , 32

e. 67, , , , , 72, ,

2. Print the numbers in order, from smallest to largest.

a. 61, 43, 69, 26

<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>
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b. 80, 74, 68, 90, 71

<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>
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3. Write a number between 87 and 92.

4. Write the number that comes before.

 , 72 , 100 , 91 , 39 , 60

5. Write the number that comes between.

 , 41 , 56 , 21 , 82 , 70

6. Write the number that comes after.

a. 88, b. 70, c. 29, d. 94, e. 49,



7. Circle the number that is less in each block.

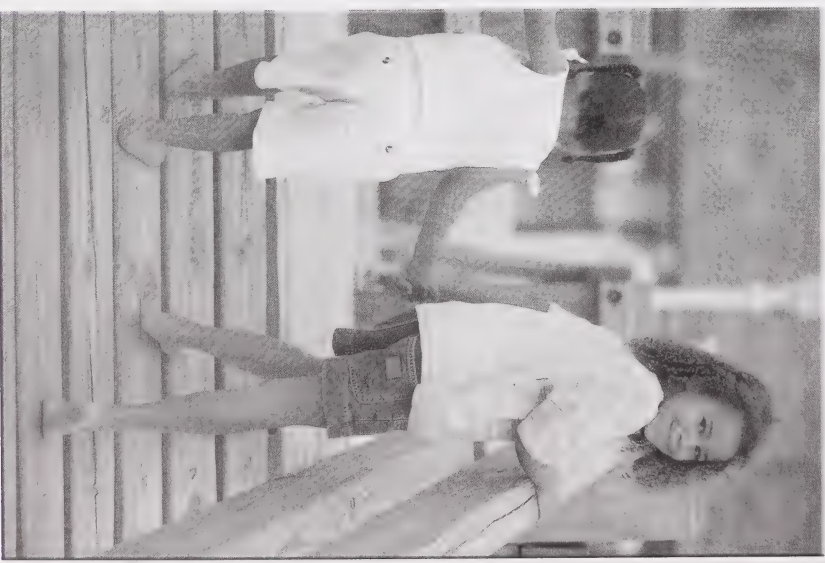
a.	b.	c.
<b>41 50</b>	<b>27 16</b>	<b>73 35</b>

8. Circle the number that is greater in each block.

a.	b.	c.
<b>76 72</b>	<b>85 78</b>	<b>17 12</b>

9. Circle the number that is greater in each block.

a.
<b>twenty nineteen</b>
b.
<b>twelve eleven</b>
c.
<b>eight sixteen</b>





10. Circle the number that is less in each block.

a. **fifteen** **twenty**

b. **nine** **nineteen**

c. **five** **twelve**

11. Circle the number that is greatest in each block.

a. **sixteen** **six** **twenty**

b. **thirteen** **three** **twelve**

c. **eighteen** **eleven** **eight**

12. Circle the number that is least in each block.

a. **four** **fourteen** **fifteen**

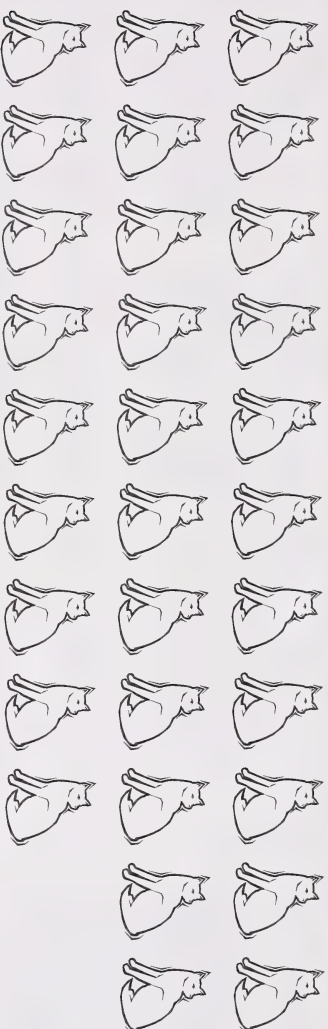
b. **nineteen** **twenty** **twelve**

c. **twenty** **fourteen** **fifteen**





13.



- Colour the fourth and eleventh cats green.
- Put an X on the twenty-second and thirty-first cats.
- Colour the second and tenth cats yellow.
- Colour the twenty-first and twenty-eighth cats red.
- Put a circle around the seventeenth and ninth cats.
- Put a box around the fourteenth cat.
- Colour the thirtieth and first cats blue.
- Put a triangle around the twelfth cat.





14. a. Colour the even numbers blue and the odd numbers red.

59	76	81	42	73	34	25	86
97	18	49	60	31	82	23	

b. Print four even numbers between 8 and 18.

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c. How do you know these numbers are even?

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d. Print four odd numbers between 70 and 80.

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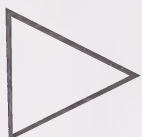
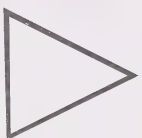
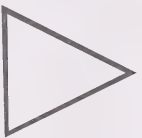
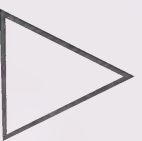
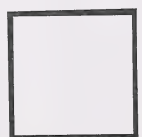
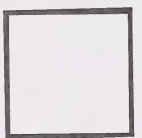
e. How do you know these numbers are odd?

---



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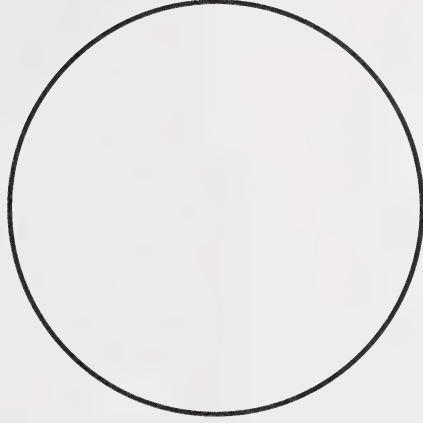
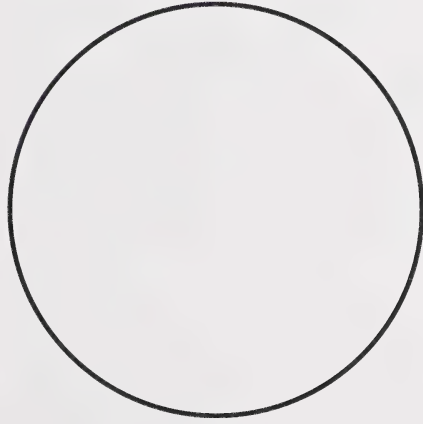
15.



- Colour two squares red.
- Colour one square blue.
- Colour two triangles red.
- Colour four triangles blue.



Sort the shapes. Then print your sorting rule.



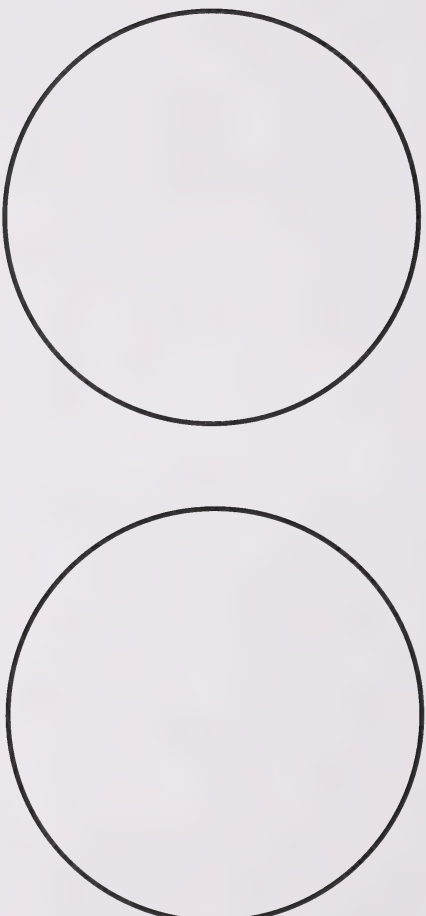
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Now re-sort the shapes and print your new sorting rule.



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## Day 2: Bird Stories



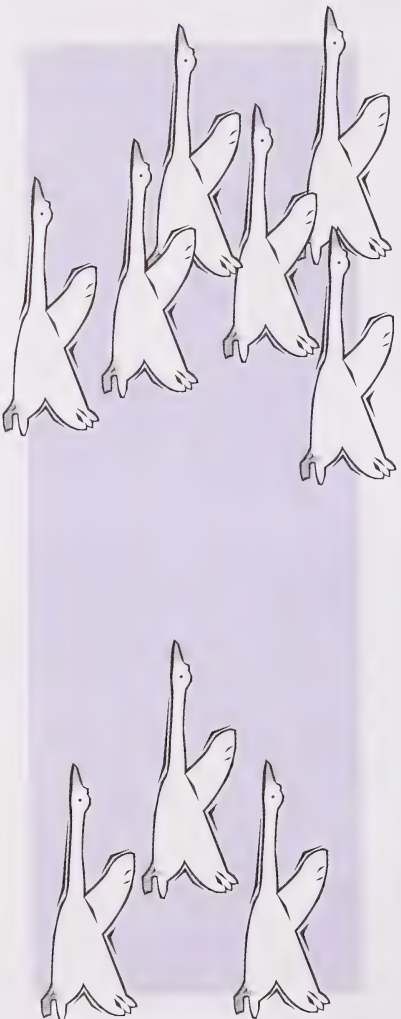
Do you have a bird feeder at your house where you can watch the birds? Today you will help Jasper and Elena count the birds they saw.

You will go on to write addition sentences. You will use your manipulatives to help you solve addition sentences.

Last of all, you will add and print the sum.

## Lesson 1

Jasper was very excited. He was watching the last of the birds fly south when he saw some beautiful, large white birds. He knew right away that they were swans. He knew that because he had seen some at Elk Island National Park just a few months ago. He saw a group of six fly overhead. He couldn't wait to tell Elena. Just then, he saw a group of three more fly overhead. This really was exciting!



Choose a manipulative from your Math Box.

Using your manipulatives, show the number of swans Jasper saw first.



How many did he see in the first group?

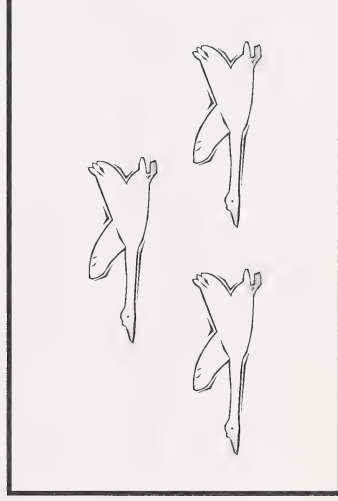
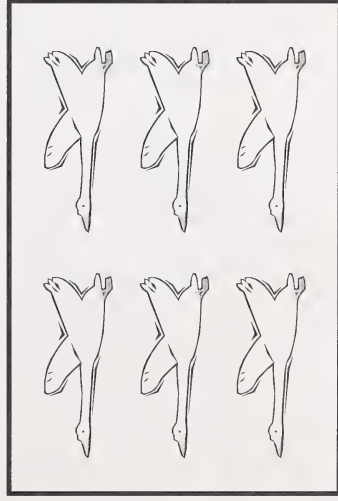
Show the number of swans he saw in the second group.

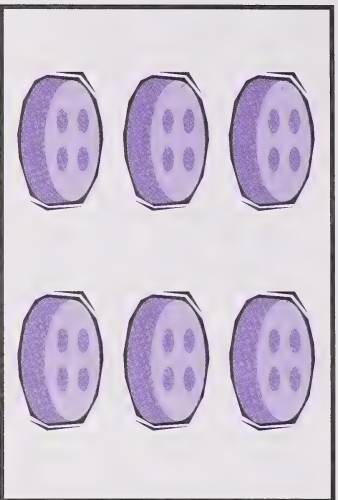
How many were there?

How many swans did Jasper see in all?

## Lesson 2

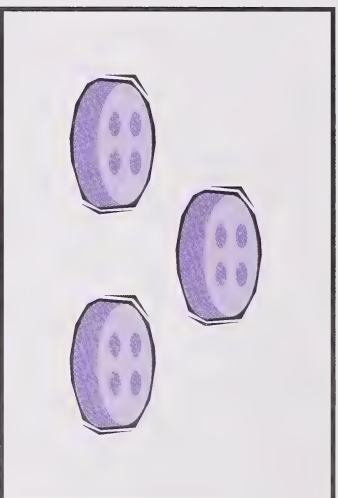
These are the ways to show what Jasper saw.





6

+



3

The addition sentence is  $6 + 3 =$

The total of  $6 + 3$  is 9. What is another word for *total*?

Yes, **sum** is another word for *total*.

Elena also saw some birds at her bird feeder. She saw five chickadees in the morning and two bluejays at noon. Help her solve how many birds were at the feeder that day.

Use your manipulatives to help you.





Write the addition sentence for the problem.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

How many birds did Elena see at the bird feeder altogether?

For each problem, have the student use manipulatives to show the numbers and then write the answer in a complete sentence.

Jasper was watching for birds at the feeder as well. He recorded seeing four juncos and one bluejay.

Write the addition sentence.

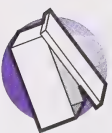
$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

How many birds did Jasper see at the bird feeder altogether?

---

---

### Lesson 3



Select a manipulative from your Math Box.

Do you know what happens when you add something to 0? Use your manipulatives to help you.

What happens when you add 0 (zero), or no more, to one? That's right! Adding zero to a number doesn't change the number.

So,  $1 + 0 = 1$ .

Add the numbers and print the answer.

1.  $2 + 0 =$

2.  $6 + 0 =$

3.  $0 + 1 =$

Have the student take one manipulative and add zero to it. Ensure the student understands that adding zero, or no more, to a number does not change the number. Have the student use manipulatives to show adding zero from one to nine.



4.  $0 + 5 =$

9.  $0 + 6 =$

14.  $5 + 0 =$

5.  $0 + 9 =$

10.  $4 + 0 =$

15.  $9 + 0 =$

6.  $3 + 0 =$

11.  $8 + 0 =$

16.  $0 + 4 =$

7.  $7 + 0 =$

12.  $0 + 3 =$

17.  $0 + 8 =$

8.  $0 + 2 =$

13.  $0 + 7 =$

18.  $1 + 0 =$



Give the student ten manipulatives. Dictate the addition sentences in the Home Instructor's Guide and have the student solve them using the manipulatives.

### Lesson 4

1. Your home instructor will read you an addition sentence. After you solve the problem using your manipulatives, write the addition sentence.

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

d. \_\_\_\_\_

e. \_\_\_\_\_

f. \_\_\_\_\_

g. \_\_\_\_\_

h. \_\_\_\_\_

i. \_\_\_\_\_

j. \_\_\_\_\_



k. \_\_\_\_\_

l. \_\_\_\_\_

m. \_\_\_\_\_

n. \_\_\_\_\_


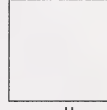
2. Add and print the sum.

a.   $2 + 7 =$  

b.   $6 + 3 =$  


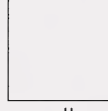
c.   $5 + 2 =$  

d.   $8 + 0 =$  

e.   $4 + 1 =$  

f.   $4 + 5 =$  

g.   $3 + 2 =$  

h.   $1 + 2 =$  

i.   $2 + 8 =$  

j.   $0 + 7 =$  

3. Add and print the sum.

a.  $\begin{array}{r} 6 \\ + 2 \\ \hline \end{array}$

d.  $\begin{array}{r} 8 \\ + 1 \\ \hline \end{array}$

g.  $\begin{array}{r} 0 \\ + 6 \\ \hline \end{array}$

j.  $\begin{array}{r} 9 \\ + 1 \\ \hline \end{array}$

m.  $\begin{array}{r} 3 \\ + 7 \\ \hline \end{array}$

p.  $\begin{array}{r} 2 \\ + 5 \\ \hline \end{array}$

s.  $\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$

v.  $\begin{array}{r} 4 \\ + 3 \\ \hline \end{array}$

b.  $\begin{array}{r} 1 \\ + 6 \\ \hline \end{array}$

e.  $\begin{array}{r} 3 \\ + 6 \\ \hline \end{array}$

h.  $\begin{array}{r} 4 \\ + 5 \\ \hline \end{array}$

k.  $\begin{array}{r} 2 \\ + 7 \\ \hline \end{array}$

n.  $\begin{array}{r} 9 \\ + 0 \\ \hline \end{array}$

q.  $\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$

t.  $\begin{array}{r} 6 \\ + 4 \\ \hline \end{array}$

w.  $\begin{array}{r} 7 \\ + 1 \\ \hline \end{array}$

c.  $\begin{array}{r} 5 \\ + 3 \\ \hline \end{array}$

f.  $\begin{array}{r} 9 \\ + 1 \\ \hline \end{array}$

i.  $\begin{array}{r} 0 \\ + 10 \\ \hline \end{array}$

l.  $\begin{array}{r} 7 \\ + 0 \\ \hline \end{array}$

o.  $\begin{array}{r} 1 \\ + 7 \\ \hline \end{array}$

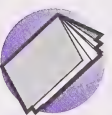
r.  $\begin{array}{r} 8 \\ + 0 \\ \hline \end{array}$

u.  $\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$

x.  $\begin{array}{r} 4 \\ + 2 \\ \hline \end{array}$



For more practice adding, go to the Extension Activities.



Go to Assignment Booklet 3A.



## Day 3: Add Them Up



Today you will explore more about addition.

Some dice will help you play a game to see how many sums you can do in two minutes.

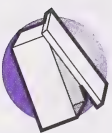
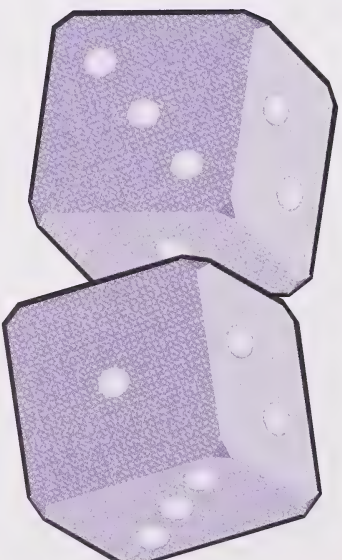
You will also add numbers using “input-output” rules.

Are you ready?

Have the student roll two dice and say the total for the numbers rolled. Keep a tally of the number sums the student can name correctly in two minutes. Use a watch or clock to time exactly two minutes. Ensure the sum is correct before the student rolls again.

## Lesson 1

Jasper and Elena had some fun with dice. They wanted to see how many addition sentences they could solve with the dice in two minutes. See how many you can solve.



Take the dice out of your Math Box.

Tally Box

Count the tally marks your home instructor made.

How many are there?

--



## Lesson 2

Elena's grandmother visited her the other day. She gave her four loonies. Elena put them in her piggy bank. She already had six loonies in there. How many does she have now?

Draw the number of loonies her grandmother gave her in the first box. Draw the number she already had in the second box.

+



+

=

Write the addition sentence.

How many loonies does Elena have now?

Jasper planted three rosebushes in his yard last year. This year he wants to plant three more. How many rosebushes will he have in total?

Draw the number of rosebushes Jasper planted last year in the first box. Draw the number he plans to plant in the second box.

Write the addition sentence.

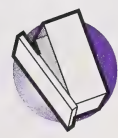
$$\begin{array}{c} \square \\ + \\ \square \\ \hline \square \\ \parallel \\ \square \end{array}$$

How many rosebushes will Jasper have in total?



Lesson 3

Jasper and Elena were using **input-output** to add numbers. Input is the number that is fed in or added. Output is the sum of the input and the rule. Jasper and Elena decided to use the input-output rule of add 3. If the input is 2 and the rule is **add 3**, the output will be 5.



Choose a manipulative from your Math Box to use.

Fill in the charts using input-output. Use your manipulatives to help you.

1.

Rule: Add 3	
Input	Output
2	5
5	
7	
3	
4	
1	

2.

Rule: Add 4	
Input	Output
4	
6	
3	
5	
2	
1	

3.

Rule: Add 2	
Input	Output
6	
8	
5	
3	
4	
2	
0	
1	
7	

4.

Rule: Add 5	
Input	Output
3	
5	
0	
1	
4	
2	

5.

Rule: Add 9	
Input	Output
0	
1	

6.

Rule: Add 1	
Input	Output
5	
8	
6	
3	
4	
9	
0	
1	
2	
7	

7.

Rule: Add 7	
Input	Output
1	
2	
0	
3	

8.

Rule: Add 6	
Input	Output
0	
1	
4	
2	
3	



9.

Rule: Add 8	
Input	Output
2	
0	
1	

10. Print the rule for each and fill in the missing numbers.

a.

Rule: Add	
Input	Output
3	6
5	
2	

b.

Rule: Add	
Input	Output
7	8
9	
8	

c.

Rule: Add	
Input	Output
5	7
4	—
7	—

e.

Rule: Add	
Input	Output
4	9
1	—
2	—

d.

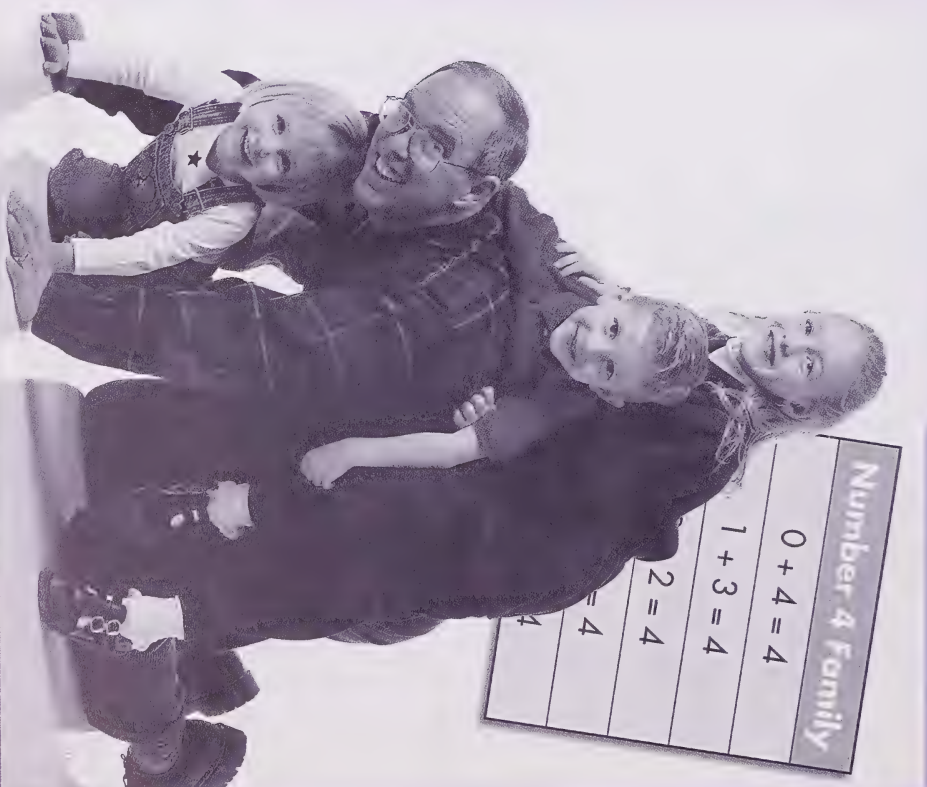
Rule: Add	
Input	Output
2	8
4	—
3	—

## Day 4: Addition Families

Did you know that just like you belong to a family, numbers belong to families, too?

Number families can present interesting problems to solve.

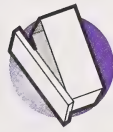
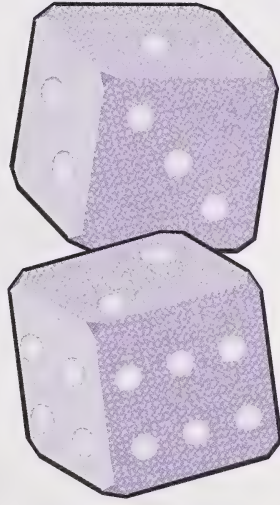
How many numbers do you think are in the 4 family? Today you will see how you can solve that kind of problem.





## Lesson 1

You rolled dice the previous day. See how many sums you can roll today. Roll your dice and say the total for the numbers rolled. Your home instructor will tally the rolls for you.



Take the dice out of your Math Box.

Tally Box	
-----------	--

Count the tally marks your home instructor made.

How many are there?

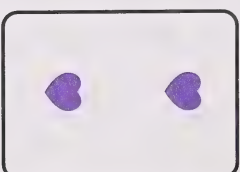
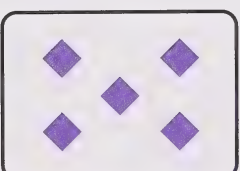
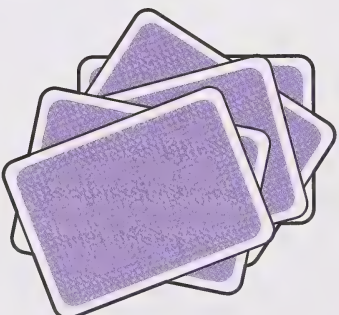
Repeat the dice game from Lesson 1 in Day 3.

1. Elena and Jasper were playing a game of cards one evening. Elena drew a five of diamonds. Jasper drew a two of hearts. When they add them together, what number do they have?

a. Write the addition sentence.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

b. What is the sum?



2. Elena and Jasper drew some more cards. This time, Elena drew the four of spades, and Jasper drew the six of clubs. What number do they have when they add them together?

a. Write the addition sentence.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

b. What is the sum?

## Lesson 2

Jasper and Elena began to see that each number had a “family.” They looked at the number 5 and discovered these addition sentences.



Number 5 Family
$0 + 5 = 5$
$1 + 4 = 5$
$2 + 3 = 5$
$3 + 2 = 5$
$4 + 1 = 5$
$5 + 0 = 5$



They know that 0, 1, 2, 3, 4, and 5 are all members of the family because they all add up to 5.





The numbers 0, 1, 2, 3, and 4 are the members of the 4 family.

Number 4 Family
$0 + 4 = 4$
$1 + 3 = 4$
$2 + 2 = 4$
$3 + 1 = 4$
$4 + 0 = 4$



The numbers 0, 1, 2, and 3 are the members of the 3 family.

Number 3 Family
$0 + 3 = 3$
$1 + 2 = 3$
$2 + 1 = 3$
$3 + 0 = 3$



1. What are the members of the 2 family?

, ,

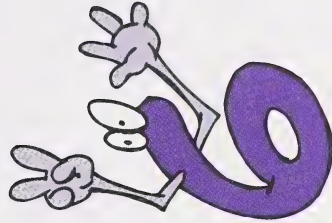
2. Write the addition sentences for the 2 family.

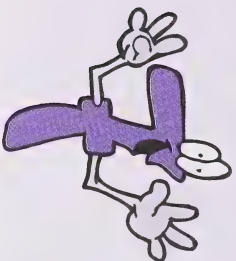
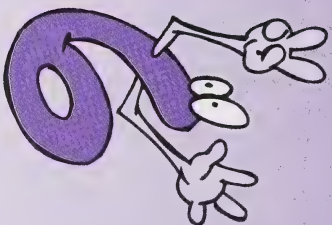
Number 2 Family				
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>



3. What are the members of the 6 family?

<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>





4. Write the addition sentences for the 6 family.

Number 6 Family					
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	

5. What are the members of the 7 family?

<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>
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6. Write the addition sentences for the 7 family.

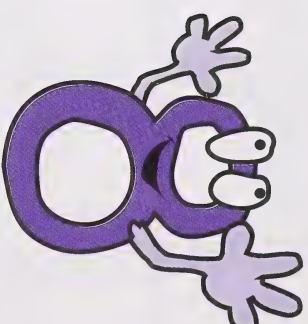
Number 7 Family			
<div></div>	=	<div></div>	<div></div>
<div></div>	+	<div></div>	<div></div>
<div></div>		<div></div>	<div></div>
<div></div>	=	<div></div>	<div></div>
<div></div>	+	<div></div>	<div></div>
<div></div>		<div></div>	<div></div>
<div></div>	+	<div></div>	<div></div>

7. What are the members of the 8 family?

, 
, 
, 
, 
, 
, 
,

8. Write the addition sentences for the 8 family.

Number 8 Family					
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	



9. What are the members of the 9 family?

<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	

10. Write the addition sentences for the 9 family.

Number 9 Family					
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	<input type="text"/>



Go to Assignment Booklet 3A.

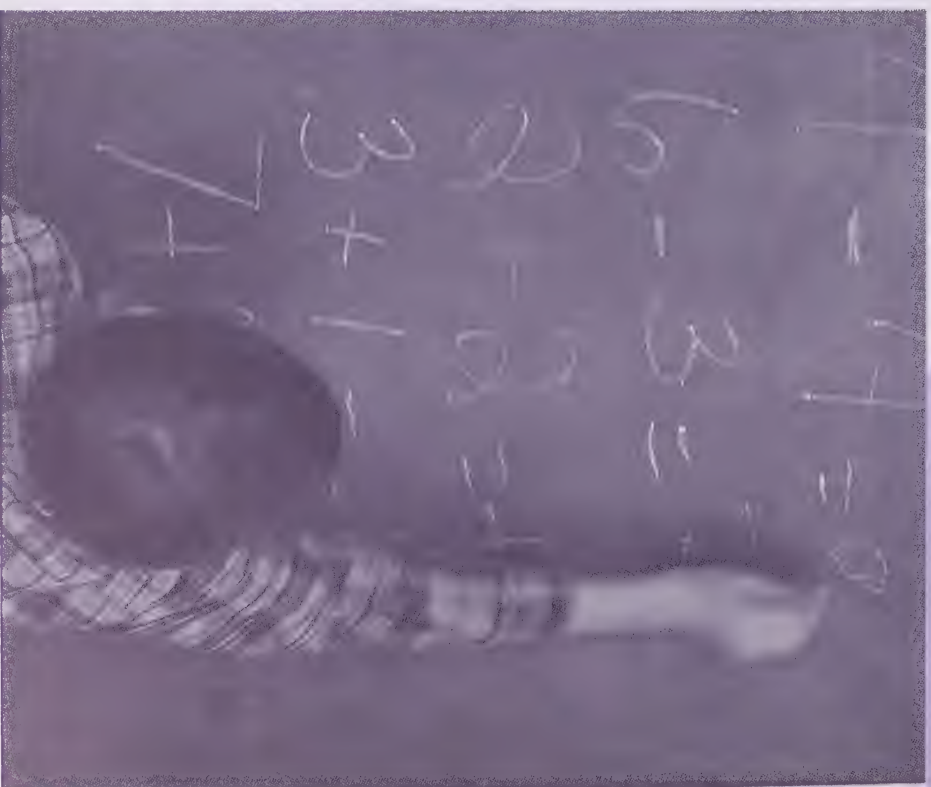


## Day 5: Take Them Away

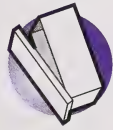
You already know that subtraction is the opposite of addition. In addition, you add to get a sum. In subtraction, you take away.

Elena and Jasper have some subtraction problems to get you started today. After you have helped to solve their problems, you will go on to write subtraction sentences.

See how easy it is to “Take them away!”

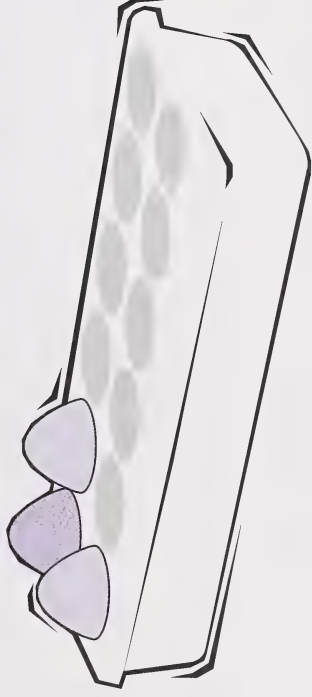


## Lesson 1



Select a manipulative from your Math Box.

Jasper wanted to surprise Elena by making her lunch. He decided to make an omelet. He took the eggs out of the fridge. There were seven eggs in the carton. Oops! Oh no! Jasper dropped four eggs.



Find out how many eggs are left to make the omelet. Use your manipulatives to help you.



How many eggs were there to begin with?

How many eggs broke?

How many eggs does Jasper have left?

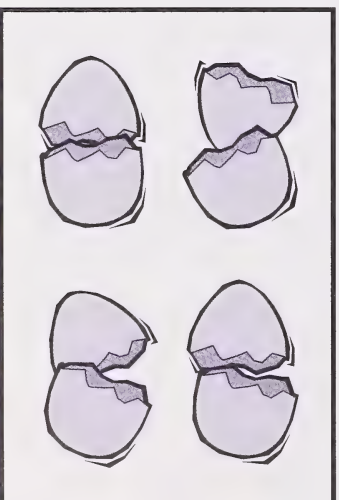
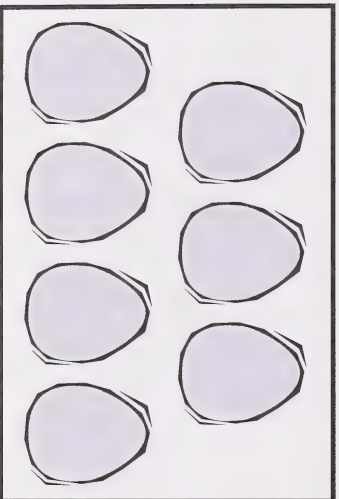
Write the subtraction sentence.

–

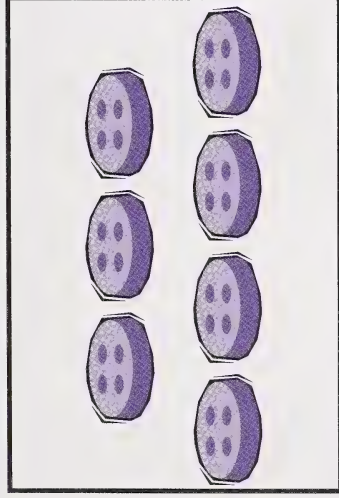
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## Lesson 2

These are the ways to show what happened to the eggs.

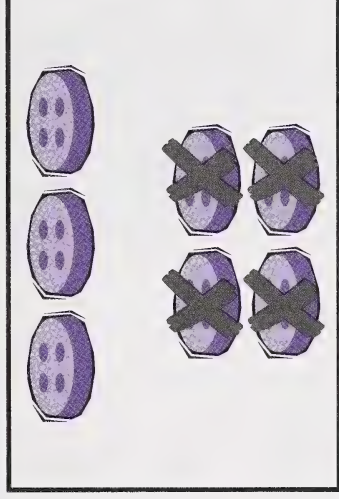






7

-



4

The subtraction sentence is  $7 - 4 = 3$ .

There were seven eggs to begin with. Four broke. That left three eggs.

Elena wanted to thank Jasper for the delicious omelet he made her. She decided to make an apple pie. She bought five apples. When Elena wasn't looking, Jasper ate two apples. He didn't know the apples were for a pie. Now Elena can't make the pie because there aren't enough apples. How many apples are left?

How many apples were there to begin with?

How many apples did Jasper eat?

How many apples are left?

Write the subtraction sentence.

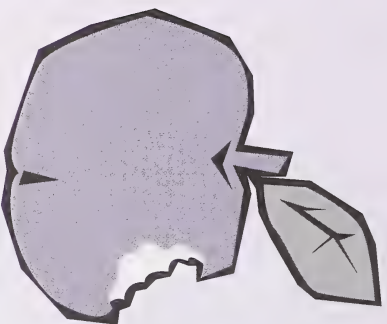
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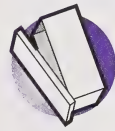
Draw a picture of the problem.




The student draws pictures showing  $5 - 3 = 2$ . For example, the student could draw five apples in the first box, Jasper eating two in the second box, and three apples left in the third box.



## Lesson 3



Select a manipulative from your Math Box.

Do you remember what happens when you add 0 to a number? The number does not change. Do you know what happens when you subtract 0 from a number? The same rule applies to subtraction. When you subtract 0 from a number, the number does not change.

What happens when you subtract 0 (zero) from 1?

$$1 - 0 = 1$$

Subtract and print the answer. Use your manipulatives to help you with these.

$$2 - 0 = \boxed{\phantom{00}}$$

$$3 - 0 = \boxed{\phantom{00}}$$

$$4 - 0 = \boxed{\phantom{00}}$$

$$5 - 0 = \boxed{\phantom{00}}$$

$$6 - 0 = \boxed{\phantom{00}}$$

$$7 - 0 = \boxed{\phantom{00}}$$

$$8 - 0 = \boxed{\phantom{00}}$$

$$9 - 0 = \boxed{\phantom{00}}$$

Have the student take one manipulative and subtract nothing from it. Ensure the student understands that subtracting 0 from a number, as in addition, does not change the number. Have the student use manipulatives to show subtracting 0 from 1 to 9.

Help the student understand that subtracting 0 from a number does not change it. The student should use manipulatives to demonstrate understanding of the concept.





## Lesson 4

1. Your home instructor will read you a subtraction sentence. After you solve the problem using your manipulatives, write the subtraction sentence.

a. \_\_\_\_\_

h. \_\_\_\_\_

b. \_\_\_\_\_

i. \_\_\_\_\_

c. \_\_\_\_\_

j. \_\_\_\_\_

d. \_\_\_\_\_

k. \_\_\_\_\_

e. \_\_\_\_\_

l. \_\_\_\_\_

f. \_\_\_\_\_

m. \_\_\_\_\_


g. \_\_\_\_\_

n. \_\_\_\_\_



2. Complete these subtraction sentences.


a.   $9 - 7 =$

b.   $6 - 3 =$

c.   $5 - 2 =$


d.   $8 - 4 =$

e.   $4 - 1 =$

f.   $3 - 2 =$

g.   $9 - 2 =$

h.   $6 - 4 =$

i.   $3 - 3 =$

j.   $10 - 7 =$

3. Do these subtraction sentences.

a.  $\begin{array}{r} 6 \\ -2 \\ \hline \end{array}$

d.  $\begin{array}{r} 8 \\ -1 \\ \hline \end{array}$

g.  $\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$

j.  $\begin{array}{r} 9 \\ -1 \\ \hline \end{array}$

m.  $\begin{array}{r} 10 \\ -7 \\ \hline \end{array}$

p.  $\begin{array}{r} 2 \\ -1 \\ \hline \end{array}$

s.  $\begin{array}{r} 5 \\ -4 \\ \hline \end{array}$

v.  $\begin{array}{r} 4 \\ -3 \\ \hline \end{array}$

b.  $\begin{array}{r} 10 \\ -6 \\ \hline \end{array}$

e.  $\begin{array}{r} 6 \\ -6 \\ \hline \end{array}$

h.  $\begin{array}{r} 9 \\ -5 \\ \hline \end{array}$

k.  $\begin{array}{r} 8 \\ -7 \\ \hline \end{array}$

n.  $\begin{array}{r} 9 \\ -0 \\ \hline \end{array}$

q.  $\begin{array}{r} 8 \\ -2 \\ \hline \end{array}$

t.  $\begin{array}{r} 6 \\ -4 \\ \hline \end{array}$

w.  $\begin{array}{r} 7 \\ -1 \\ \hline \end{array}$

c.  $\begin{array}{r} 5 \\ -3 \\ \hline \end{array}$

f.  $\begin{array}{r} 9 \\ -3 \\ \hline \end{array}$

i.  $\begin{array}{r} 10 \\ -10 \\ \hline \end{array}$

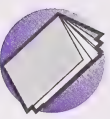
l.  $\begin{array}{r} 7 \\ -4 \\ \hline \end{array}$

o.  $\begin{array}{r} 9 \\ -7 \\ \hline \end{array}$

r.  $\begin{array}{r} 8 \\ -5 \\ \hline \end{array}$

u.  $\begin{array}{r} 9 \\ -4 \\ \hline \end{array}$

x.  $\begin{array}{r} 4 \\ -2 \\ \hline \end{array}$



Go to Assignment Booklet 3A.



## Day 6: Time to Subtract



You will start today by seeing how many subtraction questions you can do in two minutes.

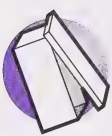
Then Elena has a “squirrelly” problem for you, while Jasper is reading many books.

After that, you will do some input-output problems. The last thing you do today is complete subtraction circles.

Now that’s a busy day!

## Lesson 1

You're going to have fun with dice again. This time, first roll one die. Then roll the second one. Subtract the smaller number from the larger one. If both numbers are the same, subtract them. See how many you can answer in two minutes. Your home instructor will tally the rolls for you.



Take two die out of your Math Box.

Allow the student two minutes. Keep a tally of each correct subtraction.

Tally Box

Count the tally marks your home instructor made.

How many are there?

Elena was watching the squirrels in her backyard. She saw nine of them playing at one time. She couldn't believe there were so many squirrels out there. She ran to get Jasper. When Jasper came, there were only three squirrels in the yard. Some had run away.

Do you know how many ran away? Use your manipulatives to help solve the problem.

How many squirrels did Elena see the first time?

How many squirrels were left when Jasper saw them?

How many squirrels ran away?





Write the subtraction sentence.

$$\square - \square = \square$$

Jasper took eight books out of the library. He read six. How many does he have left to read?

How many books did Jasper take out of the library?

How many has he read?

How many are left to read?

Write the subtraction sentence.

$$\square - \square = \square$$



Lesson 2

Fill in the blanks with the correct difference. Use your manipulatives to help you.

1.

Rule: Subtract 2	
Input	Output
5	
7	
3	
4	
2	

2.

Rule: Subtract 4	
Input	Output
5	
6	
4	
8	
9	
7	
10	

3.

Rule: Subtract 3	
Input	Output
5	
6	
4	
8	
9	
7	
10	

4.

Rule: Subtract 5	
Input	Output
10	
5	
9	
7	
6	
8	

5.

Rule: Subtract 9	
Input	Output
10	
9	



6.

Rule: Subtract 1	
Input	Output
5	
8	
6	
3	
4	
9	
10	
1	
2	
7	

7.

Rule: Subtract 7	
Input	Output
9	
7	
10	
8	

8.

Rule: Subtract 6	
Input	Output
10	
7	
8	
6	
9	

9.

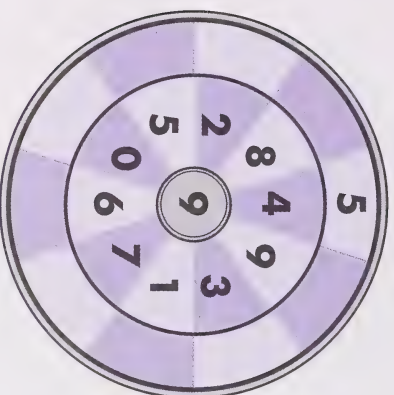
Rule: Subtract 8	
Input	
8	
10	
9	

10.

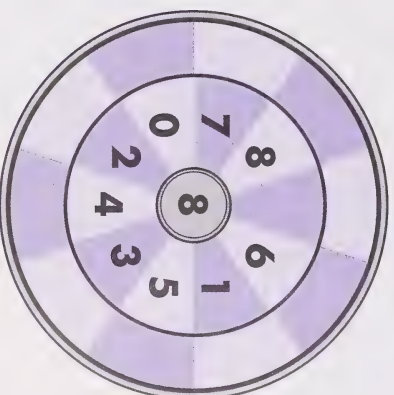
Rule: Subtract 10	
Input	
10	

11. Subtract the numbers in the middle circle from the number in the centre circle. Print the answer in the outer circle. An example has been done for you.

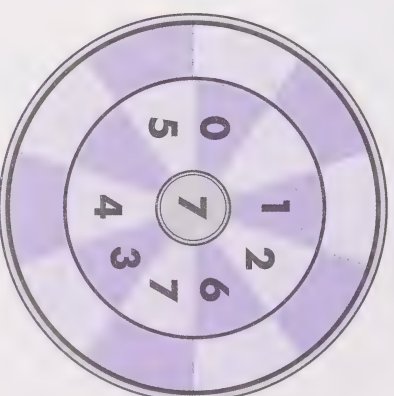
a.

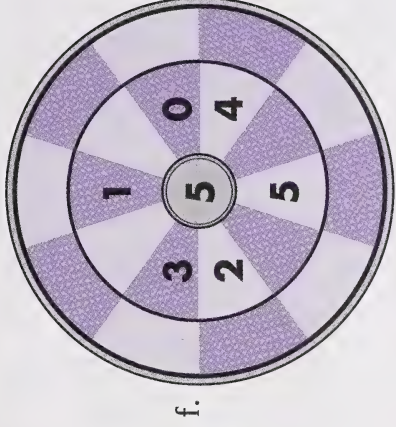
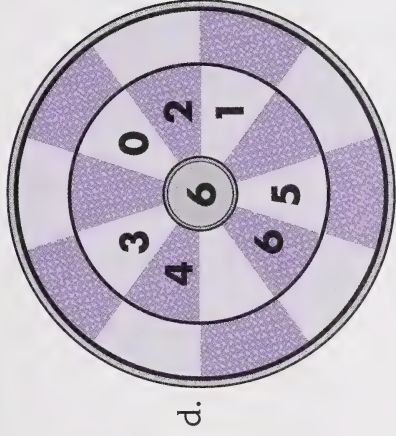
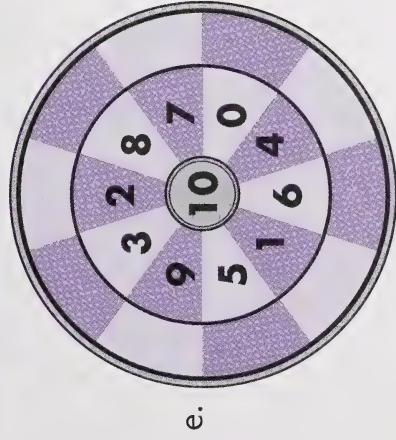


b.

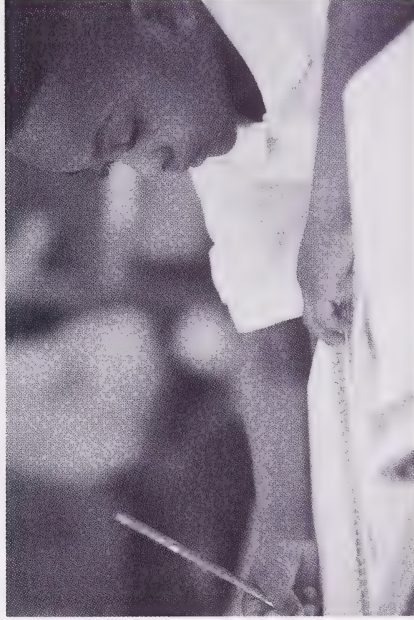


c.





Go to Assignment Booklet 3A.





## Day 7: Subtraction Stories



Do your manipulatives help you solve subtraction problems?

Use your manipulatives to help you with the stories Jasper and Elena have for you to solve today. They are about many different things, from cookies to balloons to money and many more.

Be sure that you write the answer to each story in a subtraction sentence first and then in a complete word sentence.

The last thing you will do today will be very colourful.

## Lesson 1

How many can you do in two minutes?

1.  $4 - 1 =$

6.  $9 - 4 =$

11.  $3 - 1 =$

16.  $7 - 5 =$

2.  $5 - 3 =$

7.  $6 - 3 =$

12.  $8 - 2 =$

17.  $9 - 3 =$

3.  $10 - 6 =$

8.  $7 - 3 =$

13.  $7 - 4 =$

18.  $2 - 1 =$

4.  $10 - 3 =$

9.  $8 - 7 =$

14.  $6 - 4 =$

19.  $9 - 2 =$

5.  $9 - 1 =$

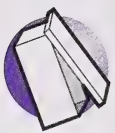
10.  $5 - 4 =$

15.  $3 - 2 =$

20.  $7 - 6 =$

How many did you subtract?

## Lesson 2



Select manipulatives to help you solve these problems.

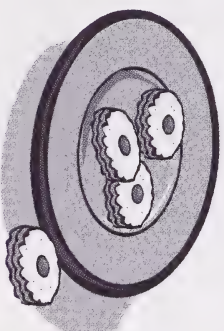
1. For each problem, write the subtraction sentence. Then answer the problem in a complete sentence.

- a. Elena's father made ten cookies. Elena ate four of them. How many were left?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

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- b. Jasper has four dollars. Elena has seven dollars. How many more dollars does Elena have?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$



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- c. Jasper bought eight balloons. Six of them were green. The rest were blue. How many were blue?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

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- d. Elena and Jasper surveyed their friends about their favourite sports. Five liked hockey and nine liked football. How many more liked football than hockey?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

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- e. Jasper and Elena were playing Snakes and Ladders. Jasper was on space three. He then threw the dice and landed on space ten. How many spaces did he move?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$




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- f. If you cover half a domino, you will see only two dots. There are nine dots in total on this domino. How many dots are on the covered half of the domino?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

2. Complete each subtraction sentence. Then colour the clouds.

a.

$$10 - 2 =$$

c.

$$7 - 3 =$$

e.

$$9 - 6 =$$

b.

$$\begin{array}{r} 3 \\ - 3 \\ \hline \end{array}$$

d.

$$\begin{array}{r} 9 \\ - 1 \\ \hline \end{array}$$

f.

$$\begin{array}{r} 8 \\ - 4 \\ \hline \end{array}$$

0 = black
1 = grey
2 = white
3 = red
4 = blue
5 = green
6 = yellow
7 = orange
8 = purple
9 = brown
10 = pink



g.

$$10 - 9 =$$

k.

$$7 - 2 =$$

o.

$$\begin{array}{r} 3 \\ - 1 \\ \hline \end{array}$$

h.

$$7 - 1 =$$

l.

$$10 - 0 =$$

p.

$$6 - 2 =$$

i.

$$\begin{array}{r} 7 \\ - 5 \\ \hline \end{array}$$

m.

$$\begin{array}{r} 8 \\ - 2 \\ \hline \end{array}$$

q.

$$4 - 1 =$$

j.

$$10 - 3$$

n.

$$5 - 2 =$$

r.

$$9 - 4 =$$



Go to Assignment Booklet 3A.

## Day 8: Relating Addition and Subtraction



Today you will mix up addition and subtraction. It means you have to watch the signs.

Along with Elena and Jasper, you will be amazed to see how the same three numbers can be used to write four number sentences.

You will use domino cards for some of the activities today.

Are you ready to begin? Let's mix it up!

### Lesson 1

1. How many can you do in two minutes? Watch the signs!

a.  $9 - 6 =$

f.  $8 - 4 =$

k.  $6 + 1 =$

p.  $5 - 5 =$

b.  $10 - 2 =$

g.  $6 + 4 =$

l.  $8 - 6 =$

q.  $9 - 2 =$

c.  $4 + 3 =$

h.  $9 - 3 =$

m.  $7 - 5 =$

r.  $3 + 1 =$

d.  $10 - 7 =$

i.  $8 - 7 =$

n.  $5 + 4 =$

s.  $6 + 2 =$

e.  $9 - 4 =$

j.  $5 + 1 =$

o.  $5 + 2 =$

t.  $7 - 6 =$

How many did you do?



2. Solve these problems. For each problem, write the number sentence. Then answer the problem in a complete sentence.

a. Jasper read four books the first week he joined the reading club. He then read three books the second week. How many more books did he read the first week?

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b. Elena did a magic trick. She put seven candies in a cloth and wrapped them up. When she opened the cloth, there were only four candies. How many candies disappeared?

-

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Module 3

69

- c. Jasper counted nine chocolate chips in his cookie. Elena counted three fewer than that in her cookie. How many chocolate chips did Elena have in her cookie?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

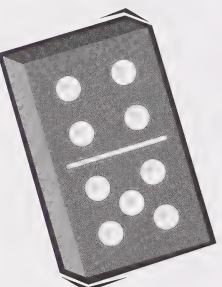
### Lesson 2

Elena and Jasper were amazed one day when they discovered that they could write four number sentences from the same numbers! This is what they saw.

Jasper wrote the addition sentences.

$$4 + 5 = 9$$

$$5 + 4 = 9$$



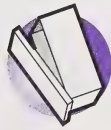
Elena wrote the subtraction sentences.

$$9 - 5 = 4$$

$$9 - 4 = 5$$

She first took the total number of dots, then subtracted one half, then the other half.

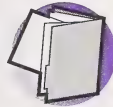
Jasper and Elena saw that this is what it means when numbers are related.



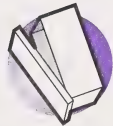
Choose a manipulative from your Math Box.

Use your manipulative to make the number sentences Jasper and Elena made. Do you see how the three numbers are related?

See for yourself how this works.



Take out a blank Domino Card from your Student Folder.



Select ten manipulatives from your Math Box.

Remember,  
when numbers  
are related, they  
are in the same  
family.



Have the student place some manipulatives on each side of a blank Domino Card and then write addition and subtraction number sentences to show the number of objects on the card.

Your home instructor will show you what to do. After you place your manipulatives on your card, write the number sentences.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

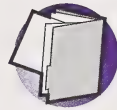
$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

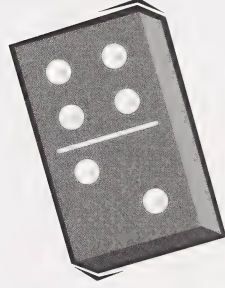
<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
<input type="text"/>	-	<input type="text"/>	=	<input type="text"/>	-	<input type="text"/>	=	<input type="text"/>
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## Lesson 3

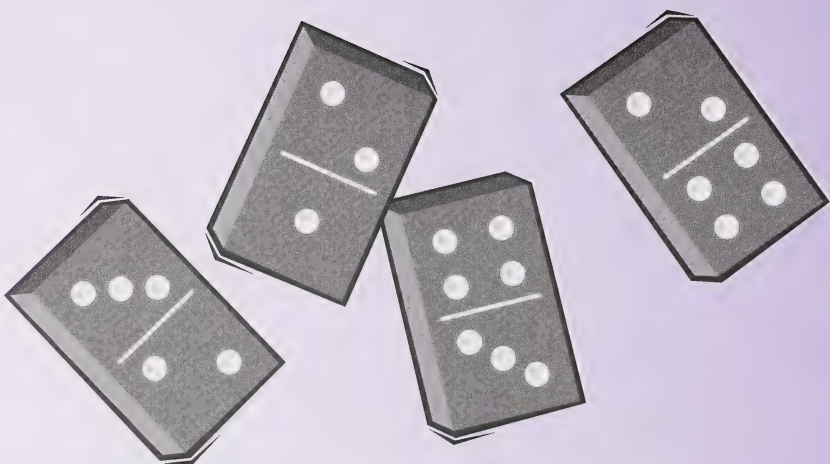


You will need the picture Domino Cards from your Student Folder.

You will be using the Domino Cards for this activity. Your home instructor will show you what to do. Write the number sentences.



Provide the student with four picture Domino Cards. Have the student write the addition and subtraction number sentences to show the total number of dots on the card.



I	I	+	+
II	II	II	II

I	I	+	+
II	II	II	II

I	I	+	+
II	II	II	II

I	I	+	+
II	II	II	II



1. Show two different addition sentences for each. The first one has been done for you.

☆	☆	☆	☆	☆	☆	☆	☆	☆	☆
4	+	3	=	7	4	+	3	=	7

5 + 2 = ?

Below the equation, there are two rows of five empty boxes each, intended for a student to draw or write numbers to solve the problem.

a.









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८.










i.











e.

							
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

f.









								
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<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	=	<input type="text"/>

g.










							
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<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	+	<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>	=









2. Show two different subtraction sentences for each. The first one has been done for you.

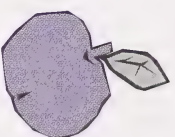
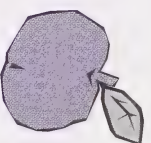
a.

							
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b.

								
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c.

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		=	
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		=	



e.

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		=	
<input type="text"/>	<input type="text"/>	-	<input type="text"/>
		=	



g.

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		=	
<input type="text"/>	<input type="text"/>	-	<input type="text"/>
		=	

d.

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		=	
<input type="text"/>	<input type="text"/>	-	<input type="text"/>
		=	

f.

		<input type="text"/>	<input type="text"/>
		=	
<input type="text"/>	<input type="text"/>	-	<input type="text"/>
		=	





3. Make four number sentences (two addition and two subtraction) for each group of numbers. An example has been done for you.

5	9	4
$5 + 4 = 9$		
$4 + 5 = 9$		
$9 - 5 = 4$		
$9 - 4 = 5$		

a.

5	6	1

c.

2	7	9

e.

6	2	8

b.

1	3	2

d.

3	1	4

## Day 9: Seeing Double

Do you know what double means?

After you have done some addition and subtraction review, you will start to see double today.

Working with doubles makes it easier to think about solving some problems. So you see, seeing double can be helpful.



## Lesson 1

How many can you do in two minutes? Watch the signs!

a.  $9 - 6 =$

f.  $9 - 4 =$

k.  $7 + 1 =$

p.  $5 - 5 =$

b.  $6 + 2 =$

g.  $5 + 4 =$

l.  $10 - 6 =$

q.  $9 - 2 =$

c.  $5 + 3 =$

h.  $9 - 2 =$

m.  $7 - 5 =$

r.  $4 + 1 =$

d.  $9 - 7 =$

i.  $8 - 6 =$

n.  $4 + 5 =$

s.  $8 + 2 =$

e.  $8 - 4 =$

j.  $5 + 1 =$

o.  $10 - 2 =$

t.  $7 - 6 =$

How many did you do?

How many did you do on Day 8?

How many more did you do on one day than the other?



2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a complete sentence.

- a. Elena had six pictures in her photo album. She put four more pictures in. How many does she have now?

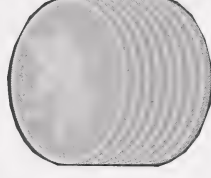
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- b. Jasper found three pennies on the sidewalk. Now he has eight pennies altogether. How many pennies did Jasper have before he found the three pennies?

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- c. Elena was comparing prices at the store. One brand of gum cost nine cents. Another cost seven cents. What is the difference in price between the two brands of gum?

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### Lesson 2

Elena and Jasper like adding with doubles. They decided to have some fun with them. Starting with  $1 + 1$ , they showed what adding doubles looks like. They choose coins to do this.

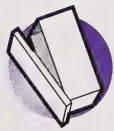


1

+

1 =

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Choose a manipulative from your Math Box.

Now you can have some fun adding with doubles.

Show addition with doubles. Start with  $1 + 1$  and continue until you get to  $10 + 10$ .



+



=




+



=

After the student shows addition with the manipulative, have him or her draw in dots in each box to represent the addition. Then print the addition sentence underneath, starting with  $1 + 1$ .



<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
+		+		+	
<div></div>	<div></div>	<div></div>	<div></div>	<div></div>	<div></div>
=		=		=	
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+		+		+	
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+



=




+



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+



=




+



=




+



=

Without looking at the answers, see if you remember how to add doubles.

1.  $5 + 5 =$

6.  $6 + 6 =$

2.  $8 + 8 =$

7.  $1 + 1 =$

3.  $3 + 3 =$

8.  $4 + 4 =$

4.  $7 + 7 =$

9.  $2 + 2 =$

5.  $10 + 10 =$

10.  $9 + 9 =$



How many did you get right?

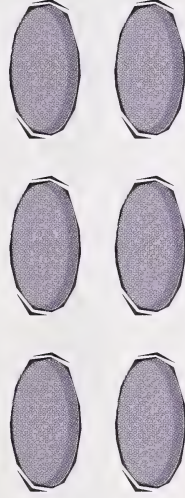
Review the answers you had difficulty with. Use a manipulative to help you.



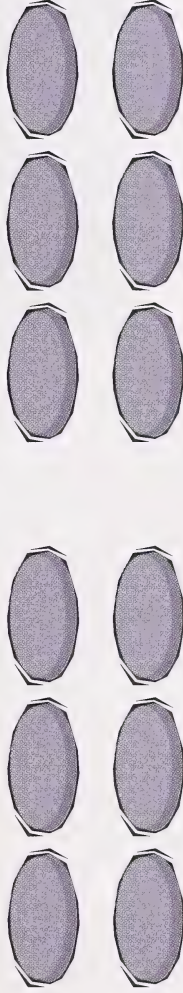
## Lesson 3

Now that you know how to add doubles, try adding one **more** or one **fewer** than the doubles.

Put a group of six counters on your desk.



Add a second group of six.



How many are in each group?

How many are there in all?

Now add one more counter to the second group.



How many are in the first group?

How many are in the second group?

How many are there in all?

Write the addition sentence.

<input type="text"/>	+	<input type="text"/>	=	<input type="text"/>
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Look at this addition sentence.

$$8 + 9 = \boxed{\phantom{00}}$$

When you see a sentence like this, think

$$8 + 8 = 16$$

So,  $8 + 9$  is one more.

$$8 + 9 = 17$$

Look at this next addition sentence.

$$8 + 7 = \boxed{\phantom{00}}$$

When you see a sentence like this, think

$$8 + 8 = 16$$

So,  $8 + 7$  is one fewer.

$$8 + 7 = 15$$





Using this strategy, have the student work through these addition sentences. Have the student explain the thought process for each one.

1.  $9 + 10 =$

5.  $4 + 5 =$

9.  $8 + 9 =$

2.  $5 + 6 =$

6.  $8 + 7 =$

10.  $6 + 5 =$

3.  $10 + 9 =$

7.  $6 + 7 =$

11.  $9 + 8 =$

4.  $10 + 11 =$

8.  $3 + 4 =$

12.  $5 + 4 =$

## Lesson 4

Once you know how to add doubles, you can then subtract them just as easily.

Remember in Day 8 you saw how the same numbers could be used to make different number sentences? You learned how number families were related. They're still related, and you will see how you can use that here.

When you take away half the number, think of doubles.

Look at this subtraction sentence.

$$\boxed{\phantom{00}} - 8 =$$

When you see a sentence like this, think

$$8 + 8 = 16$$

$$16 - 8 = 8$$

Here is another example.

$$\boxed{\phantom{00}} - 9 =$$

$$9 + 9 = 18$$

$$\text{So, } 18 - 9 = 9.$$

Now, try these subtraction sentences.

$$1. \quad \boxed{\phantom{00}} - 8 =$$

$$3. \quad 14 - 7 = \boxed{\phantom{00}}$$

$$5. \quad 20 - 10 = \boxed{\phantom{00}}$$

$$2. \quad 18 - 9 = \boxed{\phantom{00}}$$

$$4. \quad 12 - 6 = \boxed{\phantom{00}}$$

$$6. \quad 10 - 5 = \boxed{\phantom{00}}$$

Have the student use manipulatives to fully understand the idea of fact families.

Using this strategy, have the student work through these subtraction sentences. Have the student explain his or her thought process for each one.



Go to Assignment Booklet 3A.



## Day 10: Ways to Help You Add

Now that you know what addition is about, you can learn some different ways to do it. After your review today, you will explore how to add using a ruler, a number line, a metre stick, sticks with dots, and counters.

You are probably wondering, “How can I add using a metre stick?”

Now you can find out how to do that.



Beans make good counters!



## Lesson 1

1. How many can you do in two minutes? Watch the signs!

$$\boxed{\phantom{00}} \quad \text{a. } 16 - 8 =$$

$$\boxed{\phantom{00}} \quad \text{f. } 8 + 2 =$$

$$\boxed{\phantom{00}} \quad \text{k. } 20 - 10 =$$

$$\boxed{\phantom{00}} \quad \text{p. } 14 - 7 =$$

$$\boxed{\phantom{00}} \quad \text{b. } 5 - 5 =$$

$$\boxed{\phantom{00}} \quad \text{g. } 10 - 2 =$$

$$\boxed{\phantom{00}} \quad \text{l. } 9 + 9 =$$

$$\boxed{\phantom{00}} \quad \text{q. } 10 + 10 =$$

$$\boxed{\phantom{00}} \quad \text{c. } 9 - 6 =$$

$$\boxed{\phantom{00}} \quad \text{h. } 9 - 4 =$$

$$\boxed{\phantom{00}} \quad \text{m. } 12 - 6 =$$

$$\boxed{\phantom{00}} \quad \text{r. } 8 + 8 =$$

$$\boxed{\phantom{00}} \quad \text{d. } 9 - 2 =$$

$$\boxed{\phantom{00}} \quad \text{i. } 6 + 2 =$$

$$\boxed{\phantom{00}} \quad \text{n. } 7 - 6 =$$

$$\boxed{\phantom{00}} \quad \text{s. } 5 + 4 =$$

$$\boxed{\phantom{00}} \quad \text{e. } 9 - 7 =$$

$$\boxed{\phantom{00}} \quad \text{j. } 18 - 9 =$$

$$\boxed{\phantom{00}} \quad \text{o. } 7 + 7 =$$

$$\boxed{\phantom{00}} \quad \text{t. } 6 + 6 =$$

How many did you do?  $\boxed{\phantom{00}}$

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a sentence.

- a. Jasper bought a hockey card on sale for 9 cents. The regular price was 18 cents. How much money did he save by buying the card on sale?

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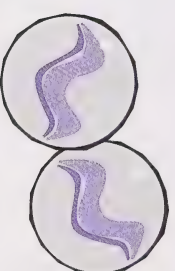
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- b. Elena's friend Luba has eight marbles in her collection. Elena also has eight marbles. How many marbles do they have in all?

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- c. Jasper had 14 hockey cards. He gave 7 of them away. How many hockey cards does Jasper have now?

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## Lesson 2

Elena and Jasper were learning different ways of adding. They know how to add using doubles and how to add by showing one more or one fewer. They wanted to learn new ways.

Today's lesson shows you the new ways they learned to add.

You can use a number line and your metre stick to help you add.



1. Lannie had 7 dimes. Her father gave her 5 more. How many does she have now? Use the number line to help you.

Write the number sentence.

	+		=	
--	---	--	---	--



2. Nadine baked 12 cookies. She then baked 6 more. How many cookies did she bake in all? Use the number line to help you.

Write the number sentence.

	+		=	
--	---	--	---	--



3. Try these on the number line.



a.  $14 + 5 =$

d.  $18 + 2 =$

b.  $11 + 6 =$

e.  $15 + 4 =$

c.  $13 + 2 =$

f.  $7 + 9 =$

4. Try these on your metre stick.

a.  $16 - 10 =$

d.  $17 - 14 =$

b.  $20 - 13 =$

e.  $13 + 6 =$

c.  $19 - 17 =$



f.  $13 + 4 =$

Have the student experiment with these numbers after making the dot sticks. The student will use different combinations of sticks to show the number of dots asked for.

### Lesson 3



Your home instructor will have you mark dots on sticks. After you have finished putting the dots on, you will choose sticks to show different numbers of dots.

Show four dots. Is there another way to make a total of four dots?



Circle  or .

Now show six dots. How many ways can you do it?



Can you show six dots using three sticks?

Circle  or .

Show 11 dots. Can you do this with two sticks?

Circle  or .

Can you show 11 dots with three sticks?

Circle  or .

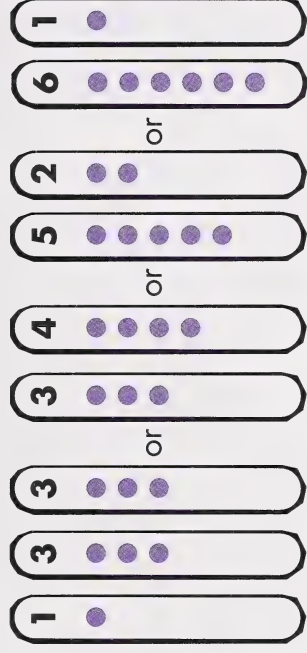
How about four sticks? Circle  or .



Show eight dots using only three sticks.

How many different ways can you pick up ten dots?


How many different ways can you find to show seven dots?





1. Draw the dot sticks that need to go here to make 12 dots?

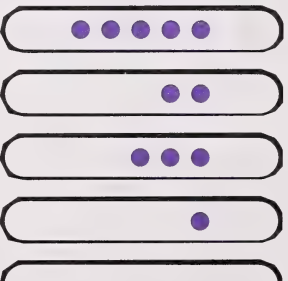


2. Draw the dots that are missing to show the number below.

a. **2**  **8**

b. **1**  **6** **9**

c. **3**  **6**

d.  **15**

Ensure the student understands this concept before continuing. Have the student use manipulatives to help with understanding.

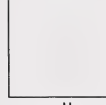
### Lesson 4

Which of the following two addition sentences is easier for you to add?

$8 + 5 =$   or  $10 + 3 =$

It is easier to add when one of the numbers is 10.

Here's a way you can use 10 to make adding and subtracting simpler.



When you have a number sentence like  $8 + 5 =$ , you can add to one of the numbers to make 10. If

you do this, you then have to take away the same amount from the other number. Your home instructor will help you with this.

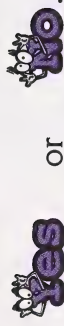
For example, when you get a number sentence like  $8 + 5$ , think how you can turn the 8 into a 10. Yes, you add 2.

$$8 + 2 = 10$$

When you add 2 to the 8, you must take away 2 from the 5.

$$5 - 2 = 3$$

Now the new number sentence is  $10 + 3$ .



Is  $10 + 3$  the same as  $8 + 5$ ? Circle

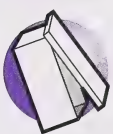
or





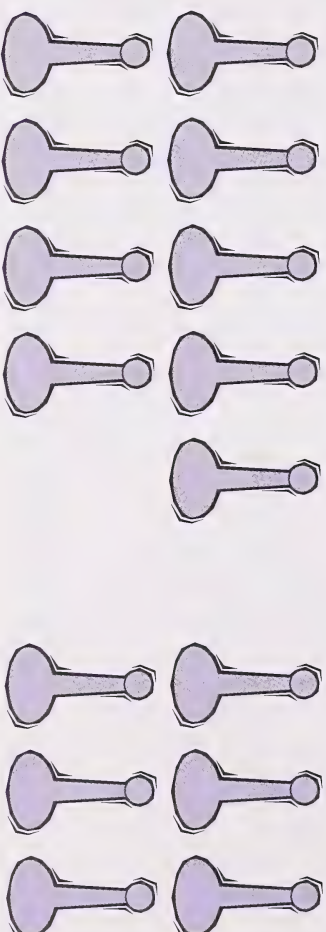
Talk the strategy through with the student, using the drawings and manipulatives for the examples. The student will be using counters to follow along.

You made the number sentence easier to figure out. You can use this method whenever you have difficulty with an addition sentence.

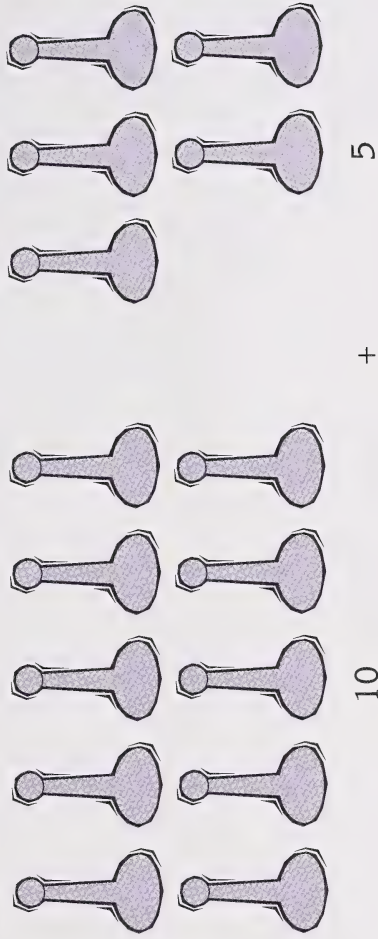


Choose a manipulative from your Math Box and use it for all of these problems.

Change this problem to an easier one.  $9 + 6 =$

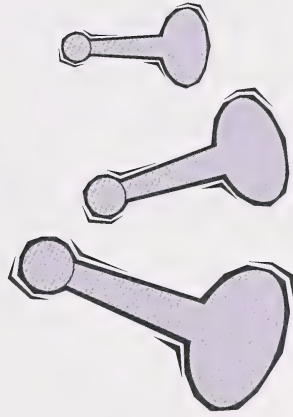


Add one counter to the group of 9 to make 10. When you add one, you must take away one from the group of 6. Move one counter from the group of 6 to the group of 9. What do your counters look like now?



Now,  $10 + 5 = 15$ .

So,  $9 + 6 = \boxed{\phantom{000}}$ .



Show how to add these using tens. The first one has been done for you.

$$8 + 6 = 14$$

$$10 + 4$$

$$1. \ 9 + 7 =$$

$$5. \ 9 + 2 =$$

$$2. \ 8 + 3 =$$

$$6. \ 8 + 7 =$$

$$3. \ 5 + 9 =$$

$$7. \ 9 + 8 =$$

$$4. \ 6 + 9 =$$

$$8. \ 8 + 5 =$$



# Day 11: Ways to Help You Subtract

How many ways do you think there are to subtract? Are they the same as for addition? Think about it.

Would a number line work for subtracting like it did for addition?

Today you will try some different ways to take away. More practice will make it easier to solve subtraction problems.

After you finish today's lessons, you will know the answers to these questions.



## Lesson 1

1. How many can you do in two minutes? Watch the signs!

a.  $18 - 9 =$

f.  $9 + 5 =$

k.  $8 + 6 =$

p.  $14 - 7 =$

b.  $9 + 6 =$

g.  $10 - 2 =$

l.  $9 + 9 =$

q.  $10 + 10 =$

c.  $8 + 6 =$

h.  $9 - 4 =$

m.  $12 - 6 =$

r.  $8 + 8 =$

d.  $9 - 2 =$

i.  $9 + 7 =$

n.  $7 - 6 =$

s.  $5 + 4 =$

e.  $9 - 7 =$

j.  $20 - 10 =$

o.  $7 + 7 =$

t.  $6 + 6 =$

How many did you do?

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a complete sentence.

- a. Su Ling climbed nine steps. She then climbed six more steps. How many did she climb in all?


---

- b. Marnie has 14 dollars. Marnie's brother has 6 dollars. How many more dollars does Marnie have than her brother?


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- c. Mabel found seven pencils in her desk. She already has nine pencils in her pencil case. How many pencils does Mabel have now?

			=	
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### Lesson 2

Elena showed Jasper some ways to help make subtraction easy. She showed him the number line from Day 10. Elena told Jasper he could use the number line for adding **and** subtracting.

1. Solve these problems with the number line.

- a. Matthew had 13 balloons. Then 4 balloons burst. How many does he have now?

Write the number sentence.

	-		=	
--	---	--	---	--





b. There are 19 pages in your science booklet. You have read 12 pages. How many pages do you have left to read?

Write the number sentence.

	-		=	
--	---	--	---	--



2. Try these on your ruler.

a.  $14 - 5 =$

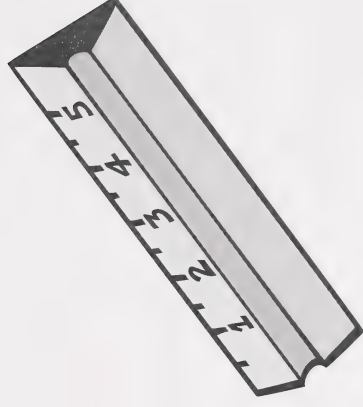
d.  $18 - 5 =$

b.  $11 - 3 =$

e.  $15 - 4 =$

c.  $19 - 2 =$

f.  $12 - 9 =$



3. Try these on the number line.



a.  $16 - 10 =$

d.  $17 - 14 =$

b.  $20 - 13 =$

e.  $13 - 6 =$

c.  $19 - 17 =$

f.  $15 - 4 =$

### Lesson 3

Counting back is another way of subtracting.

Write the numbers in order counting backward.

20	19																		
----	----	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--





1. Count back from 15.

$$15 - 3 = \boxed{\phantom{00}}$$

$$15, \boxed{\phantom{00}}, \boxed{\phantom{00}}, \boxed{\phantom{00}}$$

2. Count back from 8.

$$8 - 2 = \boxed{\phantom{00}}$$

$$8, \boxed{\phantom{00}}, \boxed{\phantom{00}}$$

3. Count back from 17.

$$17 - 1 = \boxed{\phantom{00}}$$

$$17, \boxed{\phantom{00}}$$

4. Count back from 12.

$$12 - 3 = \boxed{\phantom{00}}$$

$$12, \boxed{\phantom{00}}, \boxed{\phantom{00}}, \boxed{\phantom{00}}$$

It may help the student initially to use fingers to add on.

### Lesson 4

Counting on is another way of subtracting. To subtract this way, count on from the lower number.

For example,  $9 - 7 = \boxed{\phantom{00}}$ .

Count 7, . . . 8, 9.

You counted 2 on, so  $9 - 7 = 2$ .

$14 - 11 = \boxed{\phantom{00}}$

Begin with 11 and count on until you reach 14. How many is that?

11, . . . 12, 13, 14.

So,  $14 - 11 = 3$ .



$$\boxed{\phantom{00}} - 5 = \boxed{\phantom{00}}$$

Begin with 5. Count on until you reach 8. How many is that?

Count 5, . . . 6, 7, 8.

So,  $8 - 5 = 3$ .

Subtract these by counting on. Remember to count on from the smaller number.

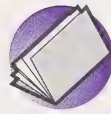
$$1. \quad 19 - 18 = \boxed{\phantom{00}}$$

$$4. \quad 20 - 17 = \boxed{\phantom{00}}$$

$$2. \quad 13 - 11 = \boxed{\phantom{00}}$$

$$5. \quad 16 - 15 = \boxed{\phantom{00}}$$

$$3. \quad 17 - 14 = \boxed{\phantom{00}}$$



Go to Assignment Booklet 3B.

## Day 12: Adding to 100



Are you now able to do more addition and subtraction facts in two minutes?

You will see how many you can do today.

Jasper and Elena are feeling like they want to start adding two-digit numbers.

You might be thinking, “But what is a digit?” That’s what you are going to find out today.

You will also use manipulatives to work with larger numbers.

## Lesson 1

1. How many can you do in two minutes? Watch the signs!

a.  $16 - 8 =$

f.  $9 + 9 =$

k.  $8 + 6 =$

p.  $14 - 7 =$

b.  $9 + 6 =$

g.  $10 - 2 =$

l.  $19 - 18 =$

q.  $10 + 5 =$

c.  $13 - 12 =$

h.  $10 - 3 =$

m.  $12 - 6 =$

r.  $18 - 2 =$

d.  $9 - 2 =$

i.  $9 + 7 =$

n.  $7 - 6 =$

s.  $15 + 4 =$

e.  $19 - 3 =$

j.  $19 - 17 =$

o.  $8 + 8 =$

t.  $6 + 6 =$

How many did you do?

How many did you do on Day 11?

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a complete sentence.

- a. Shawn borrowed 14 library books. Ashley borrowed 17. How many more books did Ashley borrow than Shawn?


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- b. There were 16 ponies in the stable. There were riders for 9 of them. How many ponies did not have riders?





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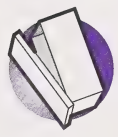
c. There were 18 cars in the parking lot this morning. Now there are only 7. How many cars left the parking lot?

			=	
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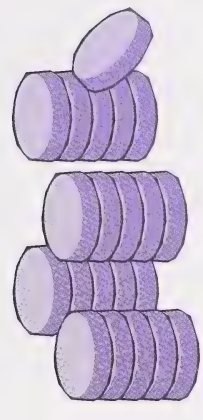


## Lesson 2

It's time for a quick review of addition and subtraction. See how well you do.



Take out 20 manipulatives from your Math Box.



1. Using your manipulatives, show how to subtract the following. Then print the answer.

a.  $17 - 6 =$

d.  $17 - 7 =$

g.  $9 - 7 =$

j.  $16 - 14 =$

b.  $13 - 8 =$

e.  $12 - 9 =$

h.  $13 - 5 =$

k.  $11 - 8 =$

c.  $18 - 13 =$

f.  $19 - 5 =$

i.  $20 - 11 =$

l.  $15 - 9 =$

2. Using your manipulatives, show how to add the following. Then print the answer.

a.  $9 + 7 =$

d.  $2 + 17 =$

g.  $3 + 14 =$

j.  $7 + 8 =$

b.  $6 + 13 =$

e.  $18 + 2 =$

h.  $3 + 9 =$

k.  $16 + 4 =$

c.  $11 + 8 =$

f.  $4 + 9 =$

i.  $14 + 5 =$

l.  $8 + 9 =$

3. As you work on each number sentence, tell your home instructor how you are figuring out the answer.

a.  $8 + 8 =$

e.  $18 - 9 =$

i.  $17 - 3 =$

b.  $9 + 6 =$

f.  $8 + 5 =$

j.  $7 + 7 =$

c.  $9 - 3 =$

g.  $16 - 14 =$

k.  $6 + 2 =$

d.  $5 + 5 =$

h.  $13 - 11 =$

l.  $16 - 8 =$

4. Circle the names for 8.

16 - 8	17 - 9	9 - 2
18 - 10	4 + 3	
11 - 4	5 + 3	20 - 12
8 - 0	14 - 4	6 + 3

5. Circle the names for 13.

10 + 3	12 + 2	19 - 5
20 - 7	7 + 5	
8 + 5	6 + 7	16 - 4
18 - 5	14 - 1	13 + 0

Have the student describe which mental math strategy learned the last few days (doubles, counting on, counting back, adding to ten, and so on) is used for each number sentence.

Have the student answer each number sentence and circle it if it is another name for the number indicated. For example, if the number was 2, the student would circle  $5 - 3$  because it is another name for 2.

6. Circle the names for 16.

7. Circle the names for 5.

$8 + 7$	$9 + 7$	$8 + 8$
$20 - 3$	$17 - 1$	
$6 + 9$	$10 + 6$	$11 + 5$
$13 + 2$	$19 - 4$	

$4 + 2$	$10 - 5$	$20 - 16$
$5 - 0$	$3 + 3$	
$13 - 8$	$17 - 13$	$3 + 2$
$8 - 4$	$9 - 5$	$11 - 6$

## Lesson 3

Jasper and Elena felt they knew their subtraction and addition facts. They were eager to start adding two-digit numbers. Do you know what a two-digit number is?

Remember, a **digit** is any number from 0 to 9.

Name some digits.

	,		,		,	
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These are also known as **single digits**.

A digit is a number from 0 to 9.

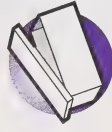


A **two-digit number** has two numbers in it. These are all two-digit numbers: 35, 16, 79, and 84.

Name some two-digit numbers.

<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>	,	<input type="text"/>
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These are also known as **double digits**.



Take out your base ten rods and cubes from your Math Box.

$$\begin{array}{r} 41 \\ + 5 \\ \hline \end{array}$$

Count out the top number with your rods and cubes.

How many ones are there?	<input type="text"/>	How many tens are there?	<input type="text"/>
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Count out the bottom number. How many ones are there?

Review which digits represent tens and which digits represent ones. Have the student count out four rods and one cube for the top number and then count out five cubes for the bottom number. Have him or her add the total.

How many ones are there in all?

How many tens are there?

What is the total sum?

Do the same for these.

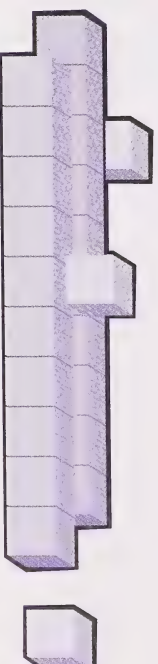
1. 
$$\begin{array}{r} 63 \\ + 4 \\ \hline \end{array}$$

2. 
$$\begin{array}{r} 78 \\ + 1 \\ \hline \end{array}$$

3. 
$$\begin{array}{r} 32 \\ + 7 \\ \hline \end{array}$$

4. 
$$\begin{array}{r} 56 \\ + 3 \\ \hline \end{array}$$


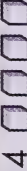

Have the student print the answer under the equation. Ensure he or she prints under the ones first, then the tens. Stress that the student must always add the ones first and then the tens. Do the other equations together with the student. Use the rods and cubes each time.



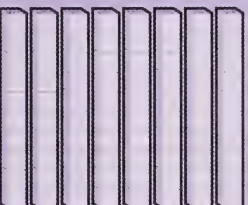


## Lesson 4

1. These place-value mats show the additions. Print the answer. Remember, always add the ones first.

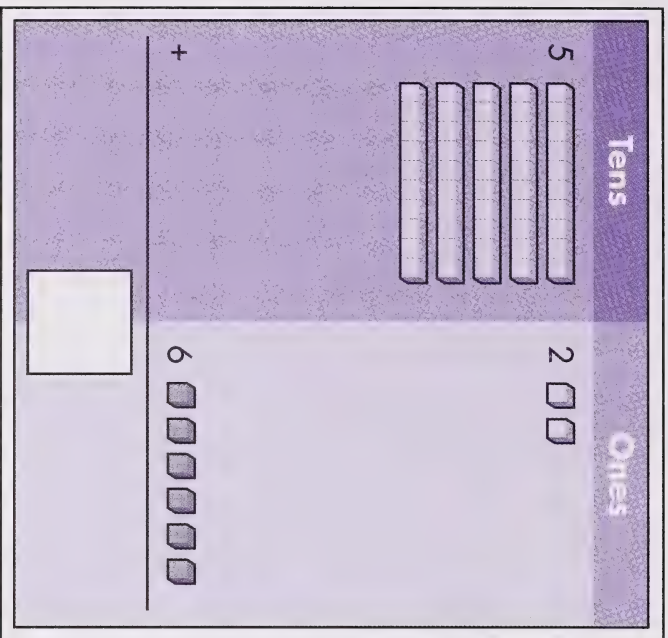
a.

Tens		Ones
3		4 
+		2 
		<div></div>

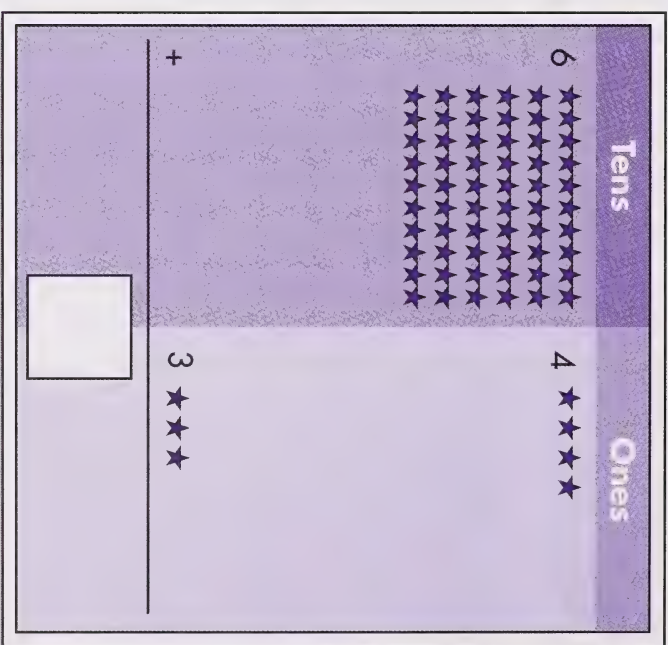
b.

Tens		Ones
8		3 
+		5 
		<div></div>

c.



d.





2. Draw a picture for each and add.

a.

Tens		Ones
7	4	
+	5	
		<div></div>

Have the student draw pictures (dots, circles, stars) to represent each equation and then print the answer for each. Remind the student to always add the ones first.

b.

Tens	Ones
2	5
+	
	1
<div style="border: 1px solid black; width: 50px; height: 20px; margin: 0 auto;"></div>	

3. Add.

a.  $\begin{array}{r} 23 \\ + 5 \\ \hline \end{array}$

e.  $\begin{array}{r} 98 \\ + 1 \\ \hline \end{array}$

i.  $\begin{array}{r} 17 \\ + 2 \\ \hline \end{array}$

m.  $\begin{array}{r} 21 \\ + 8 \\ \hline \end{array}$

b.  $\begin{array}{r} 61 \\ + 7 \\ \hline \end{array}$

f.  $\begin{array}{r} 73 \\ + 2 \\ \hline \end{array}$

j.  $\begin{array}{r} 93 \\ + 6 \\ \hline \end{array}$

n.  $\begin{array}{r} 82 \\ + 2 \\ \hline \end{array}$

c.  $\begin{array}{r} 46 \\ + 3 \\ \hline \end{array}$

g.  $\begin{array}{r} 37 \\ + 2 \\ \hline \end{array}$

k.  $\begin{array}{r} 10 \\ + 7 \\ \hline \end{array}$

o.  $\begin{array}{r} 32 \\ + 7 \\ \hline \end{array}$

d.  $\begin{array}{r} 54 \\ + 3 \\ \hline \end{array}$

h.  $\begin{array}{r} 36 \\ + 1 \\ \hline \end{array}$

l.  $\begin{array}{r} 65 \\ + 4 \\ \hline \end{array}$

p.  $\begin{array}{r} 43 \\ + 5 \\ \hline \end{array}$

## Day 13: Subtracting to 100

Just like Jasper and Elena, you will start subtracting two-digit numbers today.

After your review of number facts, you will use your rods and cubes to show subtraction on a place-value chart.

Using two-digit numbers can be easy when you see how it works. The rods and cubes show you how it works.



## Lesson 1

1. How many can you do in two minutes? Watch the signs!

a.  $16 - 8 =$

e.  $98 + 1 =$

i.  $42 + 7 =$

m.  $19 - 3 =$

q.  $19 - 17 =$

b.  $13 + 6 =$

f.  $19 - 18 =$

j.  $13 - 12 =$

n.  $16 + 3 =$

r.  $18 - 2 =$

c.  $14$

g.  $12$

k.  $9$

o.  $8$

s.  $30$

$$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$$

$$\begin{array}{r} 12 \\ - 6 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ - 2 \\ \hline \end{array}$$

$$\begin{array}{r} 8 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} 30 \\ + 8 \\ \hline \end{array}$$

d.  $10$

h.  $10$

l.  $56$

p.  $36$

t.  $9$

$$\begin{array}{r} 10 \\ + 5 \\ \hline \end{array}$$

$$\begin{array}{r} 10 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 56 \\ - 3 \\ \hline \end{array}$$

$$\begin{array}{r} 36 \\ + 2 \\ \hline \end{array}$$

$$\begin{array}{r} 9 \\ + 9 \\ \hline \end{array}$$

How many did you do?



2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a complete sentence.

a. Elena collects stickers. She has 70 so far. If she collects 6 more, how many will she have in all?


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b. Elena has 70 stickers. Elena's friend Laura has 9 more stickers than Elena. How many stickers does Laura have?


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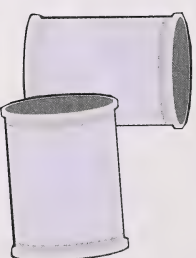


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A one-digit number is also called a single-digit number.

A two-digit number is also called a double-digit number.

- c. Jasper collected 36 cans of food for the food bank last week. Today he collected 3 cans. How many cans does he have now?



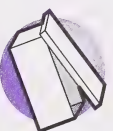
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## Lesson 2

Jasper and Elena were ready to begin subtracting two-digit numbers. Do you remember what a digit is?



Take out your base ten rods and cubes from your Math Box.

$$\begin{array}{r} 68 \\ - 6 \\ \hline \end{array}$$

Count out the top number with your rods and cubes.

How many ones are there?

How many tens are there?

Count out the bottom number. How many ones are there?

Subtract the bottom ones from the top ones.

How many are left?

How many tens are there?

Do the same for these.

1. 65

$$\begin{array}{r} -3 \\ \hline \end{array}$$

2. 78

$$\begin{array}{r} -1 \\ \hline \end{array}$$

3. 37

$$\begin{array}{r} -5 \\ \hline \end{array}$$

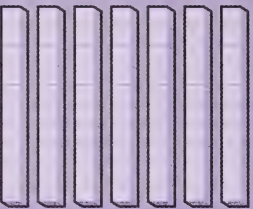

4. 56

$$\begin{array}{r} -3 \\ \hline \end{array}$$

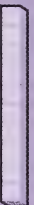
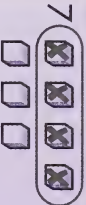
### Lesson 3

1. These place-value mats show the subtractions. Print the answer. Remember, always subtract the ones first.

a.

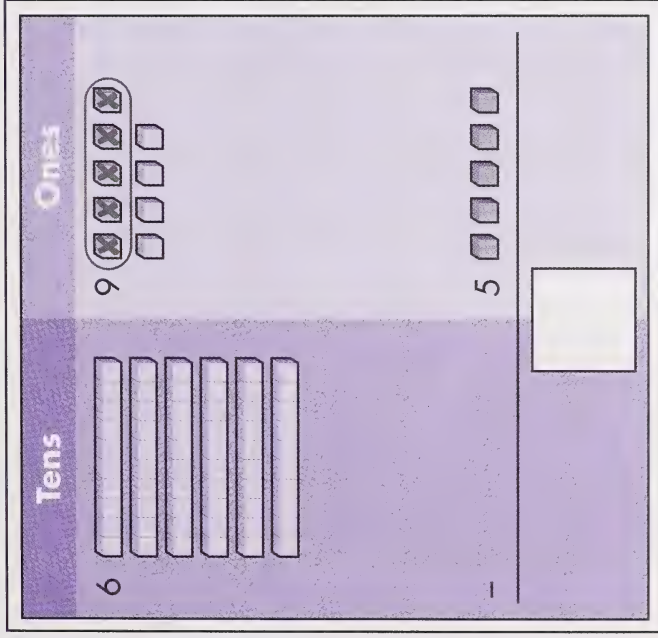
Tens	Ones
7 	4 
<div style="display: flex; justify-content: space-between;"> <div> <math display="block">\begin{array}{r} 7 \\ - \phantom{0} \\ \hline \end{array}</math> </div> <div> <math display="block">\begin{array}{r} 3 \\ - \phantom{0} \\ \hline \end{array}</math> </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; width: 100px; height: 40px;"></div> </div>	

b.

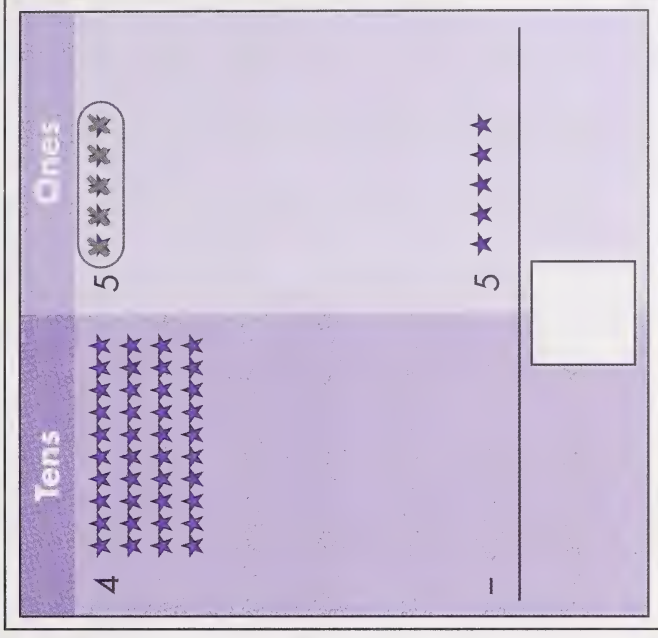
Tens	Ones
1 	7 
<div style="display: flex; justify-content: space-between;"> <div> <math display="block">\begin{array}{r} 1 \\ - \phantom{0} \\ \hline \end{array}</math> </div> <div> <math display="block">\begin{array}{r} 4 \\ - \phantom{0} \\ \hline \end{array}</math> </div> </div>	
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; width: 100px; height: 40px;"></div> </div>	



c.



d.



2. Draw a picture for each and subtract.

a.

Tens	Ones
8	3
<div style="border-top: 1px solid black; height: 20px; width: 100%;"></div>	
	1
<div style="border: 1px solid black; width: 80px; height: 40px; margin: 10px auto;"></div>	

b.

Tens	Ones
5	5
<div style="border-top: 1px solid black; height: 20px; width: 100%;"></div>	
	3
<div style="border: 1px solid black; width: 80px; height: 40px; margin: 10px auto;"></div>	

3. Subtract.

a.  $\begin{array}{r} 35 \\ -5 \\ \hline \end{array}$

e.  $\begin{array}{r} 88 \\ -1 \\ \hline \end{array}$

i.  $\begin{array}{r} 17 \\ -2 \\ \hline \end{array}$

m.  $\begin{array}{r} 34 \\ -2 \\ \hline \end{array}$

b.  $\begin{array}{r} 97 \\ -3 \\ \hline \end{array}$

f.  $\begin{array}{r} 53 \\ -2 \\ \hline \end{array}$

j.  $\begin{array}{r} 99 \\ -6 \\ \hline \end{array}$

n.  $\begin{array}{r} 42 \\ -1 \\ \hline \end{array}$

c.  $\begin{array}{r} 86 \\ -3 \\ \hline \end{array}$

g.  $\begin{array}{r} 47 \\ -2 \\ \hline \end{array}$

k.  $\begin{array}{r} 19 \\ -7 \\ \hline \end{array}$

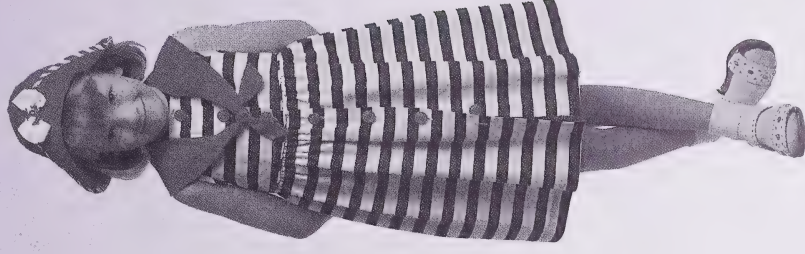
o.  $\begin{array}{r} 69 \\ -7 \\ \hline \end{array}$

d.  $\begin{array}{r} 74 \\ -3 \\ \hline \end{array}$

h.  $\begin{array}{r} 46 \\ -1 \\ \hline \end{array}$

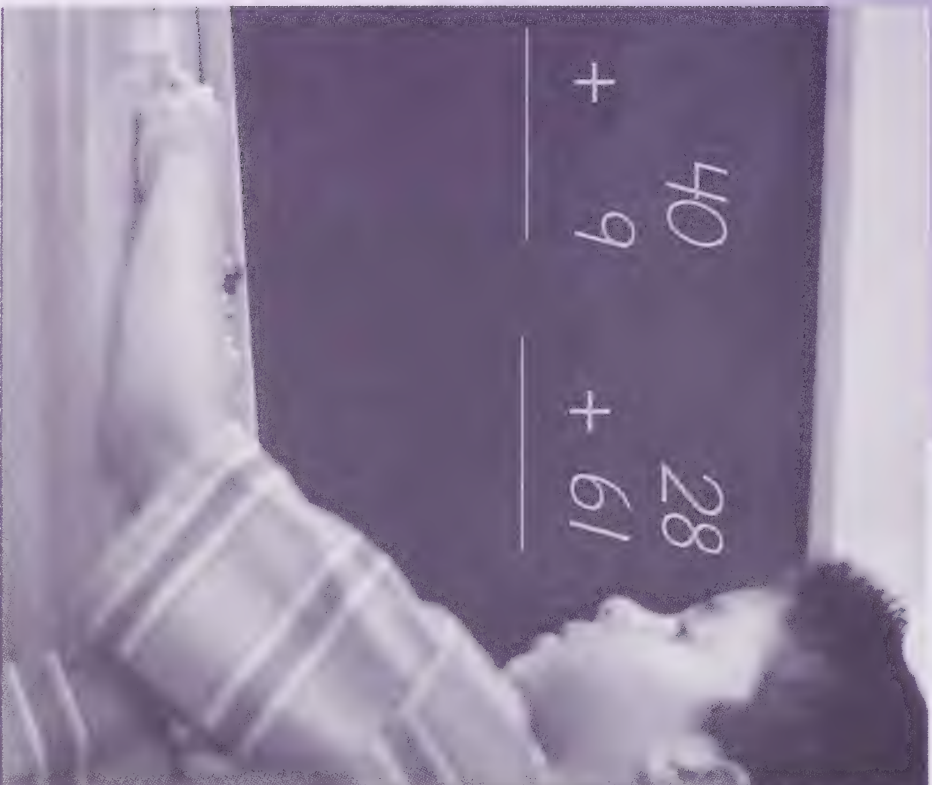
l.  $\begin{array}{r} 67 \\ -4 \\ \hline \end{array}$

p.  $\begin{array}{r} 58 \\ -5 \\ \hline \end{array}$



Go to Assignment Booklet 3B.

## Day 14: Using Two-Digit Numbers



You have added and subtracted one-digit numbers and two-digit numbers. Are you ready to solve more problems using two-digit numbers?

Today you will use your rods and cubes on a place-value chart to solve problems using two-digit numbers.

Do you remember which numbers stand for tens? Which numbers stand for ones?

That's very good.



## Lesson 1

1. How many can you do in two minutes? Watch the signs!

$$\begin{array}{r} \boxed{\phantom{00}} \\ \text{a. } 18 - 9 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{e. } 17 - 4 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{i. } 8 + 8 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{m. } 9 - 2 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{q. } 64 + 5 = \end{array}$$

$$\begin{array}{r} \boxed{\phantom{00}} \\ \text{b. } 39 - 6 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{f. } 78 - 7 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{j. } 56 + 3 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{n. } 18 - 2 = \end{array} \quad \begin{array}{r} \boxed{\phantom{00}} \\ \text{r. } 18 - 3 = \end{array}$$

$$\begin{array}{r} \text{c. } 32 \\ + 7 \\ \hline \end{array} \quad \begin{array}{r} \text{g. } 14 \\ - 7 \\ \hline \end{array} \quad \begin{array}{r} \text{k. } 75 \\ - 3 \\ \hline \end{array} \quad \begin{array}{r} \text{o. } 12 \\ - 6 \\ \hline \end{array} \quad \begin{array}{r} \text{s. } 60 \\ + 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{d. } 19 \\ - 17 \\ \hline \end{array} \quad \begin{array}{r} \text{h. } 70 \\ + 16 \\ \hline \end{array} \quad \begin{array}{r} \text{l. } 10 \\ + 5 \\ \hline \end{array} \quad \begin{array}{r} \text{p. } 12 \\ - 2 \\ \hline \end{array} \quad \begin{array}{r} \text{t. } 36 \\ + 2 \\ \hline \end{array}$$

How many did you do?

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a sentence.

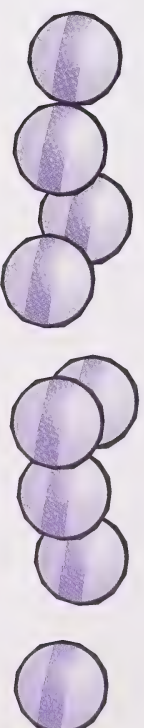
a. Elena had 89 cents. She gave Jasper 7 cents. How much money does Elena have left?

				=	
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b. Jasper had 65 marbles. He lost 4 in a game with his friend. How many marbles does Jasper have left?

				=	
--	--	--	--	---	--



- c. Elena sold 37 chocolate bars for Brownies. Her friend sold 5. How many more chocolate bars did Elena sell than her friend?

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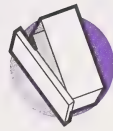
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## Lesson 2

You have been adding one-digit numbers to two-digit numbers and subtracting one-digit numbers from two-digit numbers.

Today you will be adding two-digit numbers to two-digit numbers and subtracting two-digit numbers from two-digit numbers. It's much easier than it sounds!



Take your rods and cubes out of your Math Box.

Can you add this? Show the numbers with your rods and cubes.

$$\begin{array}{r} 34 \\ + 25 \\ \hline \end{array}$$

Count out the top number with your rods and cubes.

How many ones are there?

How many tens are there?

Count out the bottom number.

How many ones are there?

How many tens are there?

How many ones are there in all?

How many tens are there in all?

What is the total sum?



1. Now try these. Use your manipulatives to show the numbers.

a.  $54$

b.  $70$

c.  $25$

d.  $48$

$+ 35$

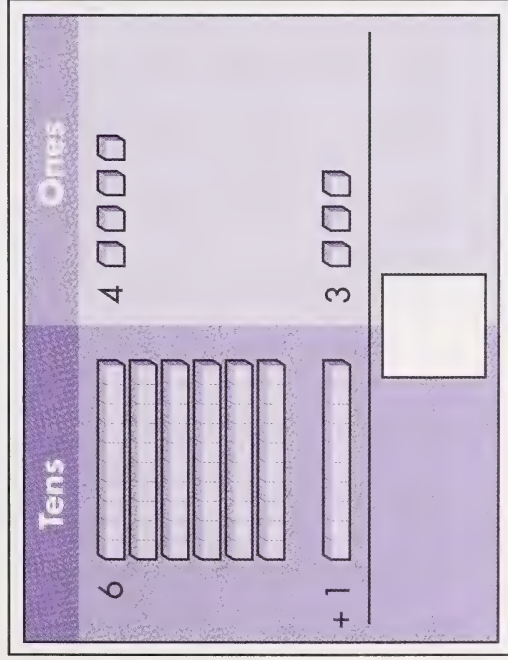
$+ 16$

$+ 63$

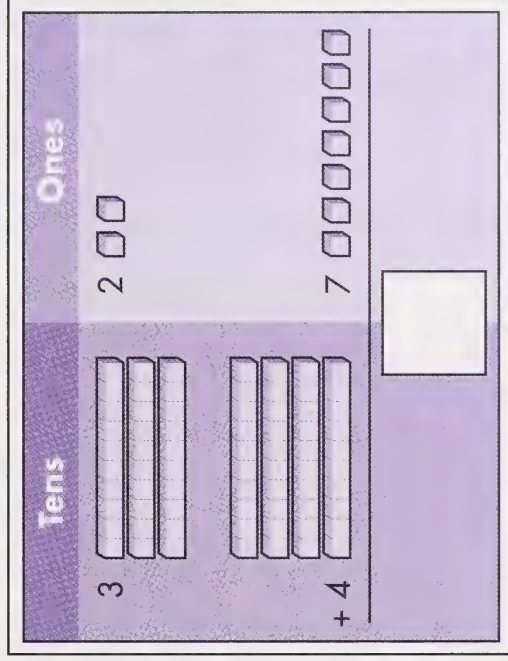
$+ 31$

2. These place-value mats show the additions. Print the answer. Remember, always add the ones first.

a.



b.



3. Draw a picture for each and add.

a.

Tens	Ones
5	4
<hr/>	
+ 4	3
<hr/>	
<div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto;"></div>	

b.

Tens	Ones
1	2
<hr/>	
+ 6	1
<hr/>	
<div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto;"></div>	

## Lesson 3

Now that you know how to add two-digit numbers to two-digit numbers, try subtracting two-digit numbers from two-digit numbers.

Can you subtract this? Show the numbers with your rods and cubes.

$$\begin{array}{r} 76 \\ - 51 \\ \hline \end{array}$$



Count out the top number with your rods and cubes.

How many ones are there?

How many tens are there?

Count out the bottom number. How many ones are there?

How many tens are there?

Subtract the bottom ones from the top ones. How many ones are there now?

Subtract the bottom tens from the top tens. How many tens are there now?

1. Now try these. Use your manipulatives to show the numbers.

a. 
$$\begin{array}{r} 99 \\ - 86 \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 39 \\ - 27 \\ \hline \end{array}$$

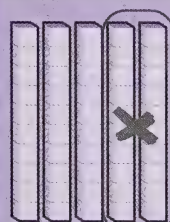

c. 
$$\begin{array}{r} 28 \\ - 15 \\ \hline \end{array}$$

d. 
$$\begin{array}{r} 65 \\ - 43 \\ \hline \end{array}$$

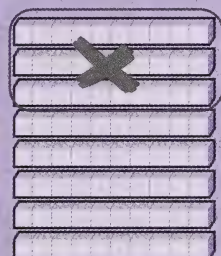
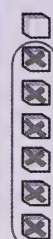


2. These place-value mats show the subtractions. Print the answer. Remember, always subtract the ones first.

a.

Tens	Ones
5 	3 
- 2	3
<hr/>	
<div style="border: 1px solid black; width: 80px; height: 40px; margin: 0 auto;"></div>	

b.

Tens	Ones
8 	7 
- 3	6
<hr/>	
<div style="border: 1px solid black; width: 80px; height: 40px; margin: 0 auto;"></div>	

# Day 14

3. Draw a picture for each and subtract.

Tens	Ones
6	9
-4	7
<div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto;"></div>	

b.

Tens	Ones
1	8
-1	7
	<input type="text"/>

4. Add.

a.  $\begin{array}{r} 28 \\ + 61 \\ \hline \end{array}$

e.  $\begin{array}{r} 22 \\ + 21 \\ \hline \end{array}$

i.  $\begin{array}{r} 87 \\ + 11 \\ \hline \end{array}$

b.  $\begin{array}{r} 60 \\ + 35 \\ \hline \end{array}$

f.  $\begin{array}{r} 35 \\ + 52 \\ \hline \end{array}$

j.  $\begin{array}{r} 39 \\ + 30 \\ \hline \end{array}$

c.  $\begin{array}{r} 43 \\ + 36 \\ \hline \end{array}$

g.  $\begin{array}{r} 14 \\ + 82 \\ \hline \end{array}$

k.  $\begin{array}{r} 81 \\ + 18 \\ \hline \end{array}$

d.  $\begin{array}{r} 40 \\ + 49 \\ \hline \end{array}$

h.  $\begin{array}{r} 33 \\ + 44 \\ \hline \end{array}$

l.  $\begin{array}{r} 26 \\ + 40 \\ \hline \end{array}$

5. Subtract.

a. 
$$\begin{array}{r} 75 \\ - 25 \\ \hline \end{array}$$

d. 
$$\begin{array}{r} 86 \\ - 53 \\ \hline \end{array}$$

g. 
$$\begin{array}{r} 88 \\ - 10 \\ \hline \end{array}$$

j. 
$$\begin{array}{r} 47 \\ - 32 \\ \hline \end{array}$$

b. 
$$\begin{array}{r} 87 \\ - 44 \\ \hline \end{array}$$

e. 
$$\begin{array}{r} 64 \\ - 53 \\ \hline \end{array}$$

h. 
$$\begin{array}{r} 43 \\ - 32 \\ \hline \end{array}$$

k. 
$$\begin{array}{r} 90 \\ - 70 \\ \hline \end{array}$$

c. 
$$\begin{array}{r} 27 \\ - 12 \\ \hline \end{array}$$

f. 
$$\begin{array}{r} 93 \\ - 60 \\ \hline \end{array}$$

i. 
$$\begin{array}{r} 74 \\ - 51 \\ \hline \end{array}$$

l. 
$$\begin{array}{r} 89 \\ - 77 \\ \hline \end{array}$$



For more practice subtracting, go to the Extension Activities.



Go to Assignment Booklet 3B.



## Day 15: Figure This Out

There are many problems that Jasper and Elena try to solve. You will help them figure out different problems today.

Have you ever gone on a field trip with other students? One problem Elena and Jasper want to solve is, how many students can go on two school buses?

To solve this problem and others like it, you will use many different number sentences. You will learn a new name for these sentences.

Get ready to begin.



## Lesson 1

1. How many can you do in three minutes? Watch the signs!

a.  $18 - 9 =$

e.  $17 - 4 =$

i.  $8 + 8 =$

m.  $18 - 16 =$

q.  $18 - 9 =$

b.  $20 - 10 =$

f.  $46 - 34 =$

j.  $7 + 7 =$

n.  $20 - 10 =$

r.  $13 - 2 =$

c.  $16$   
 $- 3$   

---

g.  $35$   
 $+ 52$   

---

k.  $51$   
 $+ 37$   

---

o.  $16$   
 $- 3$   

---

s.  $73$   
 $- 52$   

---

d.  $23$   
 $- 12$   

---

h.  $16$   
 $- 8$   

---

l.  $89$   
 $- 63$   

---

p.  $29$   
 $- 17$   

---

t.  $38$   
 $+ 41$   

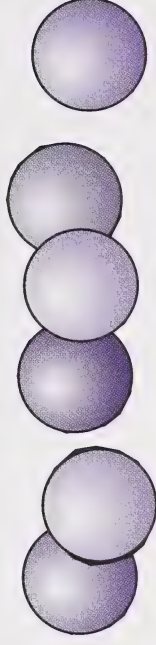
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How many did you do?

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a sentence.

- a. Jasper has 87 gumballs in a bag. His friend Mark has 46 gumballs in his bag. How many more gumballs does Jasper have than Mark?

				=	
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- b. Elena's mother told her she could play outside for 45 minutes. It got very cold, so her mother called her in after 24 minutes. How long did Elena have left to play outside?

				=	
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- c. Jasper and Elena were playing a game of cards. There were 52 cards in one pile and 43 cards in another pile. How many cards were there in all?

				=	
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## Lesson 2

Do you know what an **equation** is? You know it by another name—a number sentence.

Look at these examples of number sentences.

$$4 + 3 = 7$$

$$13 - 5 = 8$$

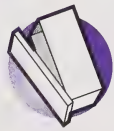
$$26 + 13 = \boxed{\phantom{00}}$$

$$\begin{array}{r} 26 \\ + 13 \\ \hline \end{array}$$

Anytime you see a number sentence, you will know that it is an equation.

An **equation**  
is a  
number  
sentence.





Choose a manipulative from your Math Box.

Take a handful of the manipulative you chose. Spread the manipulatives on your desk. Count them.

How many are there?

Now take another handful and count them. How many are there?

Now add them.

+

=

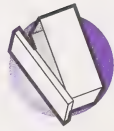
You just wrote an equation!

Write another equation using your manipulatives.

+

=

### Lesson 3



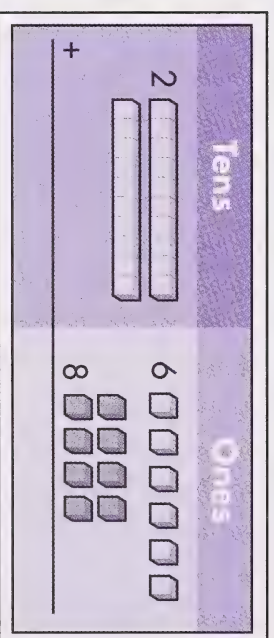
Take out your rods and cubes from your Math Box.

Have the student show both numbers with the rods and cubes and put both sets together.

Jasper and Elena came across an equation they didn't know how to add. This is what it was:  $26 + 8 =$

Work through this equation with your home instructor to find out how Jasper and Elena added it.

Jasper and Elena showed the equation on a place-value mat.



Count the tens and ones.

tens

ones

You have 14 ones. You never want to have more than 9 ones. What can you do? You can trade the ones for a ten.

Count out ten ones and trade them for a ten.

How many ones do you have now?

How many tens do you have now?

Now you and Jasper and Elena know that  $26 + 8 = 34$ .

Try regrouping again with this equation. Use your rods and cubes to help you.

$$37 + 9 = \boxed{\phantom{00}}$$

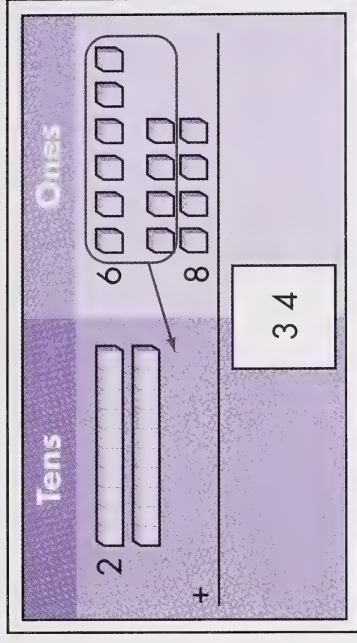
Count the tens and ones.

tens  ones

You have too many ones. Trade 10 ones for a ten.

How many ones do you have now?

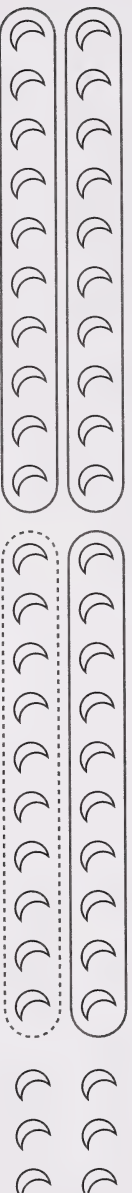
How many tens do you have now?



Now you can add  $37 + 9$ .

$$37 + 9 =$$

1. Practise regrouping. Count and reprint the numbers. Circle ten ones and then recount. The first one is done for you.



**3**

tens

**16**

ones

regroup

**4**

tens

**6**

ones

a.




tens

ones

regroup

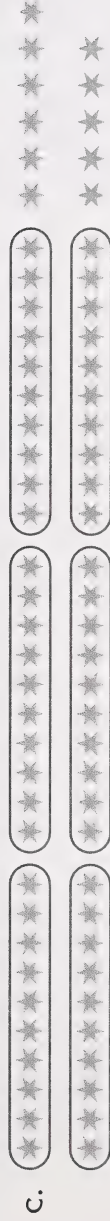
tens

ones





<input type="text"/>	tens	<input type="text"/>	ones	$\xrightarrow{\text{regroup}}$	<input type="text"/>	tens	<input type="text"/>	ones
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<input type="text"/>	tens	<input type="text"/>	ones	$\xrightarrow{\text{regroup}}$	<input type="text"/>	tens	<input type="text"/>	ones
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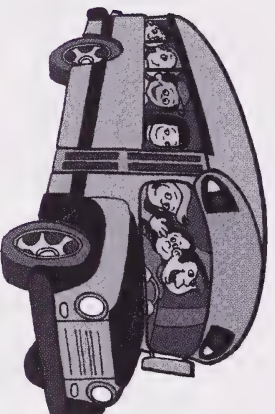
<input type="text"/>	tens	<input type="text"/>	ones	$\xrightarrow{\text{regroup}}$	<input type="text"/>	tens	<input type="text"/>	ones
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Take your Place-Value Mat out of your Student Folder.

2. Help Jasper and Elena solve this problem. Use your rods and cubes and Place-Value Mat to solve the problem.

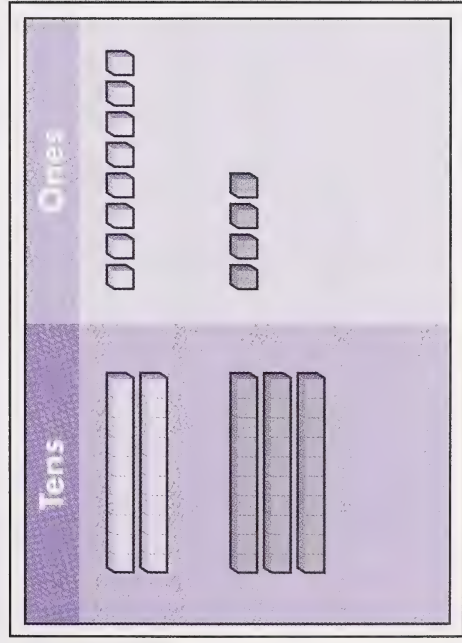
Jasper and Elena went on a field trip with children from a nearby school. There were two busloads of children. There were 28 children on the first bus and 34 children on the second bus. Elena and Jasper wanted to know how many children went on the field trip in all.



This is how they worked the problem out. First, they wrote the equation.

$$28 + 34 = \boxed{\phantom{00}}$$

Then they took out their rods and cubes and place-value mat to help with the addition. Jasper and Elena showed the numbers on the place-value mat.



Go through the regrouping process with the student step by step. Explain how the 12 in the ones column becomes 2 (10 ones are regrouped into a ten).

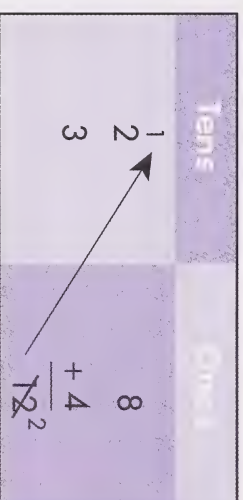
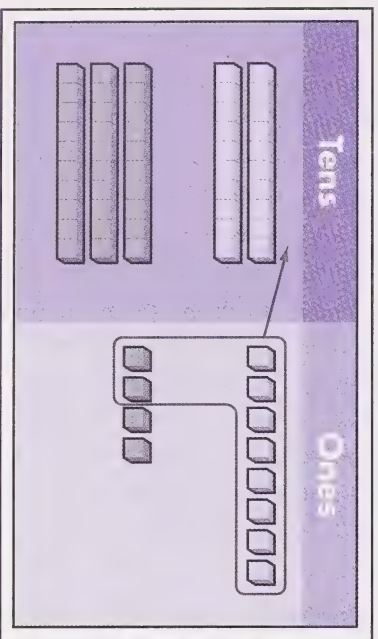
They also printed the numbers on a place-value chart.

Tens	Ones
2	8
3	4

Now, Jasper and Elena added the ones.

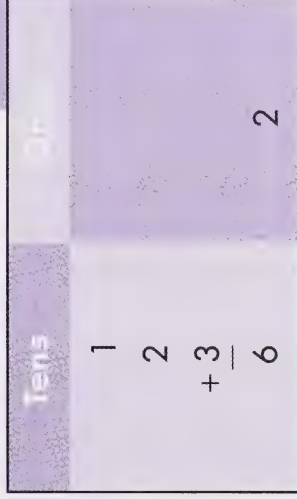
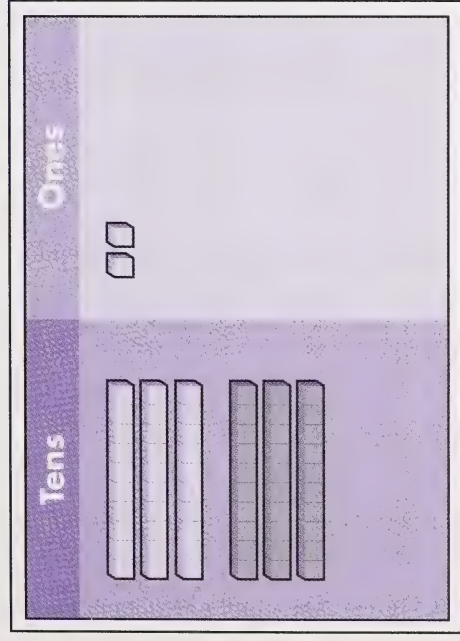
Tens	Ones
2	8
3	$\begin{array}{r} +4 \\ \hline 12 \end{array}$

Then they traded the ones for a ten.





Jasper and Elena added the tens.



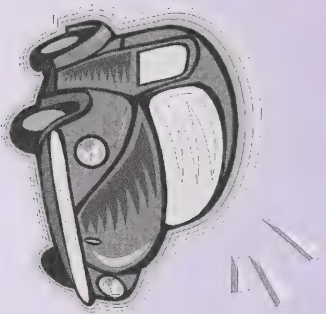
How many children went on the field trip in all?

Ensure the student understands how to regroup before continuing.

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Try these. Use your rods and cubes and your Place-Value Mat.

3. There were 37 cars in the parking lot in the morning. In the afternoon, 56 more cars parked there. How many cars were there in all?

Write the equation.

$$\boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Show the numbers on your Place-Value Mat. Then print the numbers on this place-value chart.

Tens	Ones

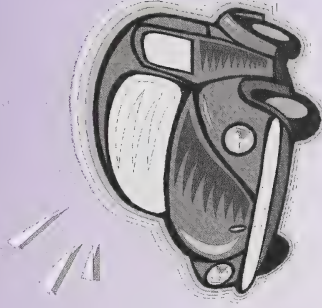
Now, add the ones on the place-value chart.

Tens	Ones

Trade the ones for a ten on your Place-Value Mat. Print the numbers on the place-value chart.

Tens	Ones

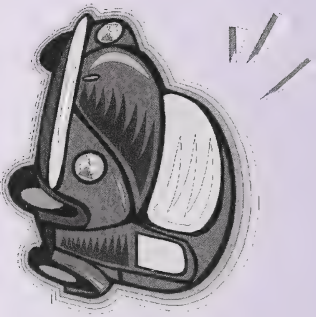
Work with the student through the next two problems.



Add the tens.



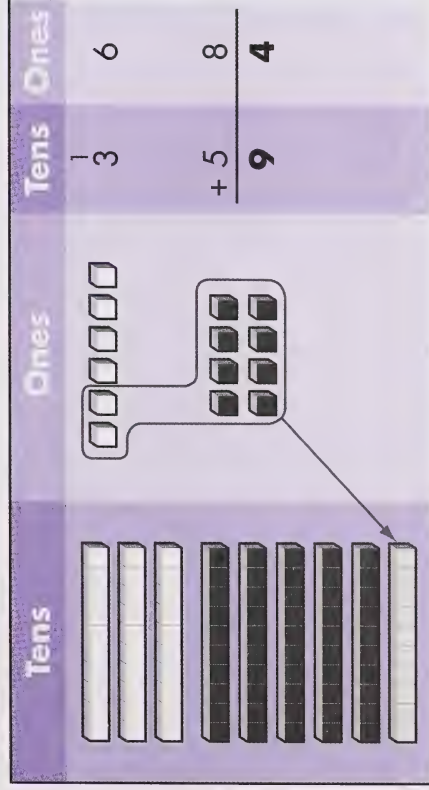
How many cars were there in all?



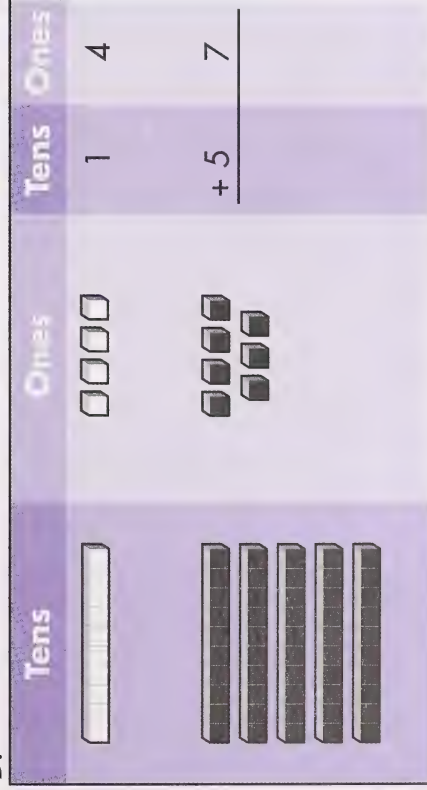


4. Regroup each of these and then add them. The first one is done for you.

a.



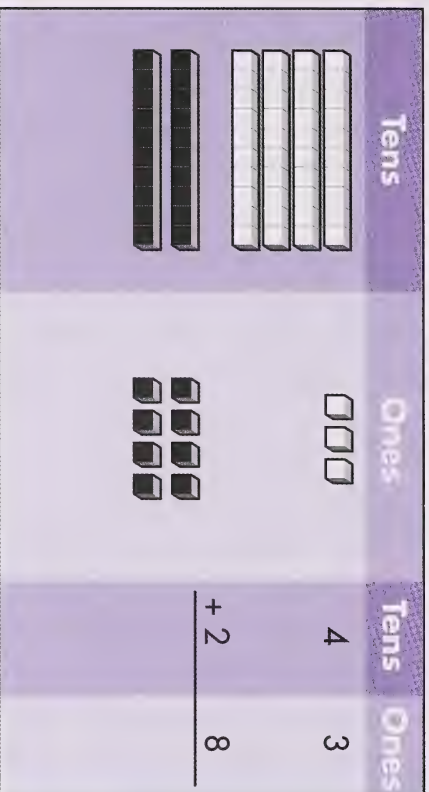
b.



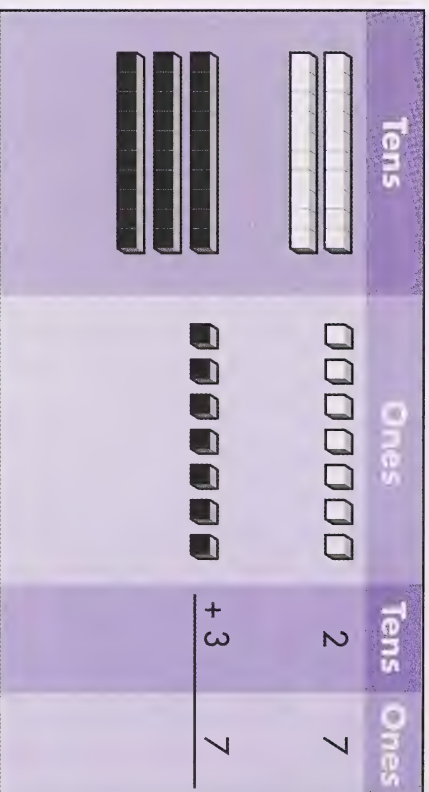
c.



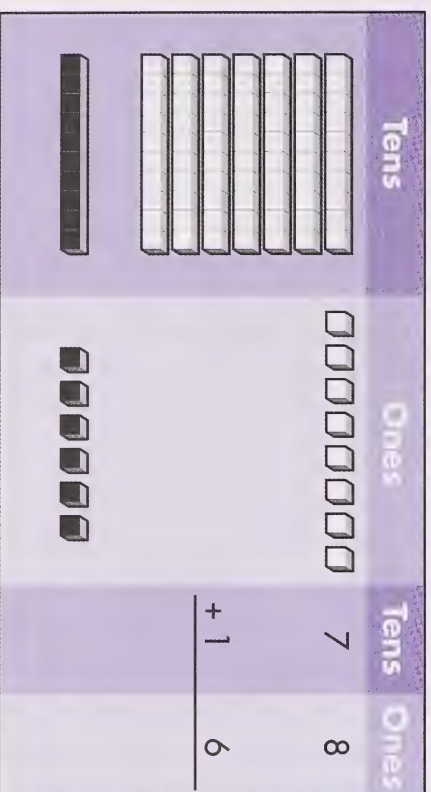
d.



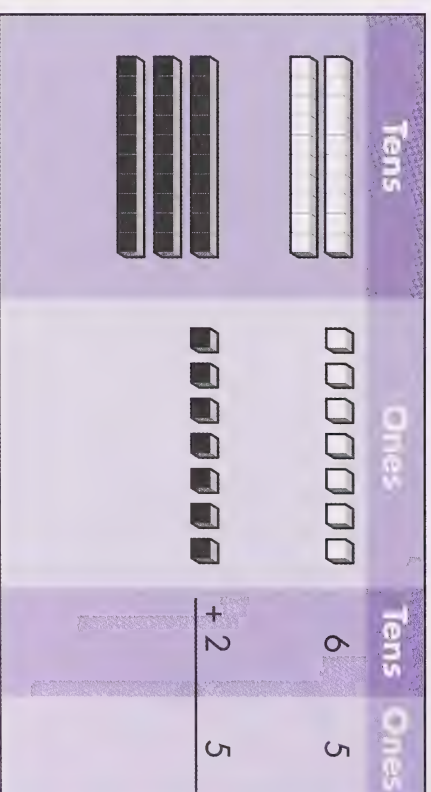
e.



f.



g.



5. Draw a picture for each one and add. The first one is done for you.

a.

$$\begin{array}{r} 1 \\ 64 \\ + 19 \\ \hline 83 \end{array}$$

a.

$$\begin{array}{r} 58 \\ + 14 \\ \hline \end{array}$$

b.

$$\begin{array}{r} 46 \\ + 37 \\ \hline \end{array}$$

c.

$$\begin{array}{r} 19 \\ + 46 \\ \hline \end{array}$$



## Day 16: More Figuring



You are doing very well figuring problems out.

Guess what? Jasper and Elena have more problems for you to solve. Just like them, you are getting good at working with larger numbers.

Today you will learn how to regroup so you can do more figuring.

Get those rods and cubes ready to go.



## Lesson 1

How many can you do in three minutes? Watch the signs!

a.  $40 - 10 =$

e.  $78 - 35 =$

i.  $8 + 8 =$

m.  $15 - 13 =$

q.  $13 - 2 =$

b.  $62 - 51 =$

f.  $35 + 46 =$

j.  $67 + 17 =$

n.  $14 - 3 =$

r.  $38 + 45 =$

c.  $33 - 11 =$

g.  $18 - 9 =$

k.  $59 - 24 =$

o.  $22 - 10 =$

s.  $16 - 3 =$

d.  $17 - 16 =$

h.  $77 - 61 =$

l.  $35 + 5 =$

p.  $18 - 9 =$

t.  $50 + 12 =$

How many did you do?

2. Solve these problems. For each problem, write the number sentence, including the addition or subtraction sign. Then answer the problem in a sentence.

- a. Jasper bought 17 cookies at a bake sale. Elena bought 25 more cookies than Jasper did. How many cookies did Elena buy?

			=	

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- b. Jasper bought some candy for 65¢ and some gum for 29¢. How much did he spend in total?

		=	




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- c. Elena counted 45 bison at Elk Island National Park. Jasper counted 9 more bison than Elena. How many bison did Jasper count?

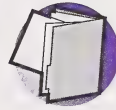

=




## Lesson 2



Take out your rods and cubes and your Place-Value Mat from your Math Box.



Take out your Place-Value Mat from your Student Folder.

Jasper and Elena felt pretty good about adding large numbers. They weren't so sure about subtracting large numbers. They came across this problem and didn't know what to do.

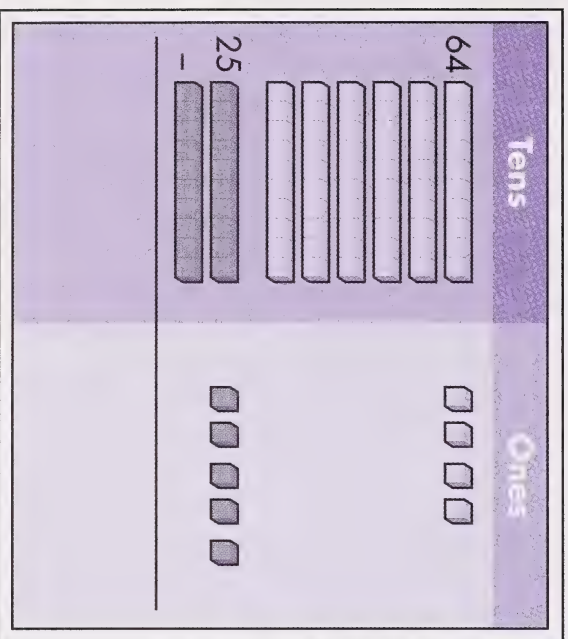
Help Jasper and Elena solve this problem. Use your rods and cubes and Place-Value Mat to solve the problem.

Jasper entered a contest at the mall. He had to estimate the number of pickles in a jar. He estimated 25 pickles. The actual count was 64. Jasper and Elena wanted to know how much less Jasper's estimate was than the actual count.

Write the subtraction sentence.

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

This is how it looks on a place-value mat.





This is how it looks on a place-value chart.

Tens	Ones
6	4
2	5

$$\begin{array}{r} 64 \\ - 25 \\ \hline \end{array}$$

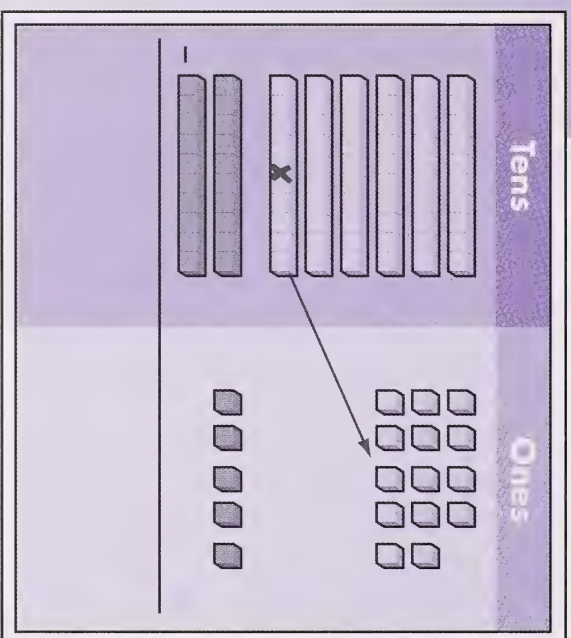
Can you subtract the bottom number of ones from the top number of ones? Circle  or .

Why or why not? Try to subtract 5 from 4. Can you do it?

No, you cannot subtract a larger number from a smaller number.

How can you subtract this number then? Remember how you traded ten ones for a ten when you were adding in the last class? You can trade a ten for ones when you subtract, too.

You can't take 5 away from 4. You need more ones. Trade 1 ten for 10 ones.



Tens	Ones
<del>5</del> 2	<sup>1</sup> 4 5

Take a rod (ten) from the 64 set and show how to exchange it for ten cubes (ones) from a separate pile. Have the student do this manually as well. Put the ten cubes into the pile of four cubes.

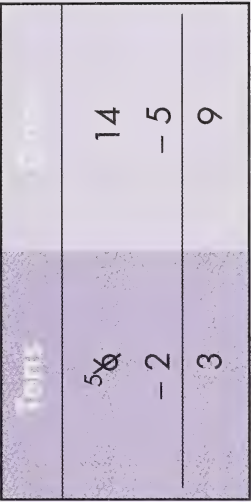
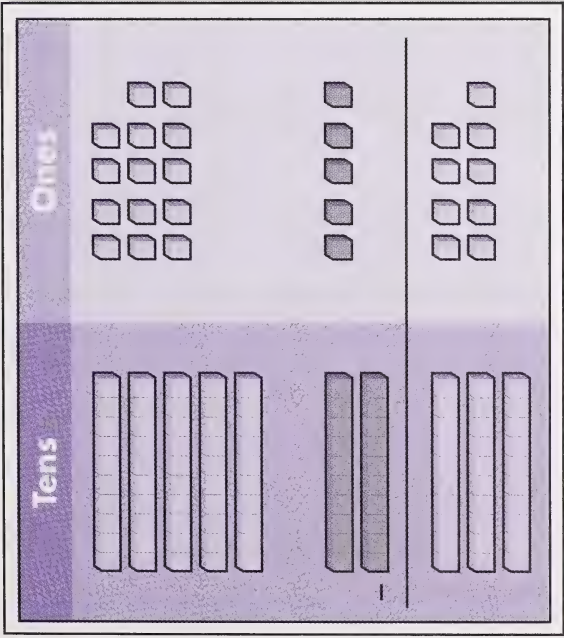
How many ones do you have now in your top number?

How many tens do you have now in your top number?

You traded one ten for ten ones.

Now you have 5 tens and 14 ones.

Now subtract the ones first and then the tens.



How much lower was Jasper's estimate than the actual count?

---



---

Try to solve this problem. Use your rods and cubes and your Place-Value Mat.

There were 37 fish in the lake last summer. There are 29 fish in it this summer. How many more fish were in the lake last summer?

Write the equation.

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

For each step, show the numbers on your Place-Value Mat. Then print the numbers on these place-value charts.





You need more ones. Trade 1 ten for 10 ones.

Tens	Ones

Subtract the ones. Then subtract the tens.

Tens	Ones

How many more fish were in the lake last summer?

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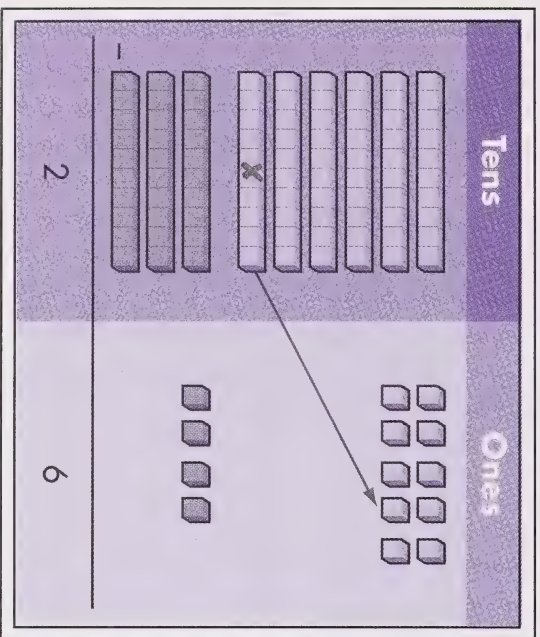


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## Lesson 3

How do you subtract from a zero in the ones column? Look at the place-value mat and place-value chart to

solve  $60 - 34 =$  .

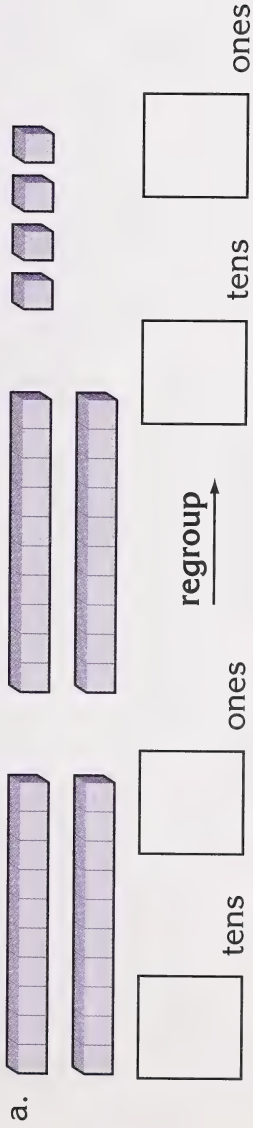
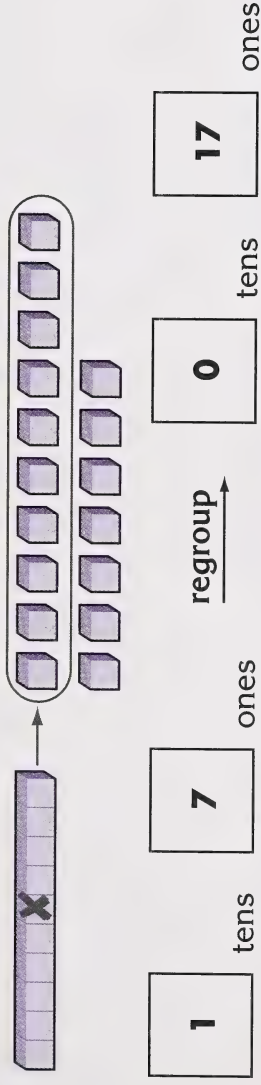


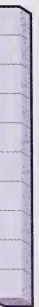



Tens	Ones
$\overset{5}{\cancel{6}}$	$\overset{1}{0}$
$-3$	$4$
$2$	$6$

You try it now. Trade a ten for ones. Then do the subtraction.

- $50 - 26$
- $90 - 73$

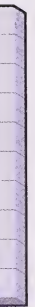
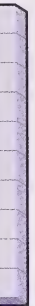


3. Practise regrouping. Count the tens and ones. Then trade one ten for ten ones and recount the ones. An example has been done for you.



c.    



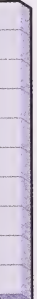



tens  ones regroup  tens  ones

d.    



tens  ones regroup  tens  ones

e.    

tens  ones regroup  tens  ones



f.

regroup →

<input type="text"/>	<input type="text"/>
tens	ones

<input type="text"/>	<input type="text"/>
tens	ones

g.

regroup →

<input type="text"/>	<input type="text"/>
tens	ones

<input type="text"/>	<input type="text"/>
tens	ones




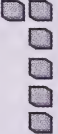
h.

regroup →

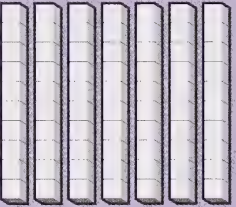
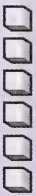
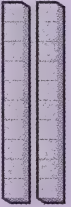
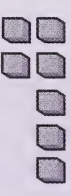
<input type="text"/>	<input type="text"/>
tens	ones

<input type="text"/>	<input type="text"/>
tens	ones


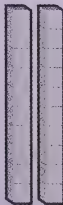
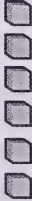
4. Complete each of the following subtraction equations. To help you do the subtraction, trade one ten to make ten ones in the top number. Then print the answer. An example has been done for you.

Tens	Ones	Tens	Ones
		<sup>3</sup> <del>4</del>	<sup>1</sup> 5
		$-2$	$6$
		$1$	$9$



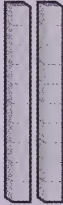

a.

Tens	Ones	Tens	Ones
		$7$	$6$
		$-2$	$7$



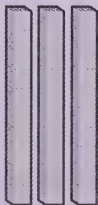

b.

Tens	Ones	Tens	Ones
		3	0
		- 2	6

d.

Tens	Ones	Tens	Ones
		3	2
		- 2	9

c.

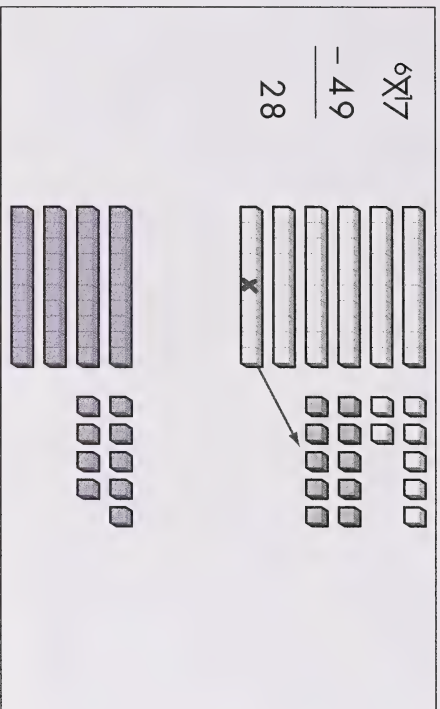
Tens	Ones	Tens	Ones
		5	4
		- 3	5

5. Draw a picture for each one and subtract. The first one is done for you.

a.

$$\begin{array}{r} 64 \\ - 15 \\ \hline \end{array}$$

$$\begin{array}{r} 6\cancel{X}17 \\ - 49 \\ \hline 28 \end{array}$$



c.

$$\begin{array}{r} 50 \\ - 28 \\ \hline \end{array}$$

b.

$$\begin{array}{r} 46 \\ - 37 \\ \hline \end{array}$$



Go to Assignment Booklet 3B.



## Day 17: I Can Do It in My Head

Remember to watch the signs when you do your review today.

Jasper and Elena discover that sometimes they need to figure out problems in their head. They do not always have a pencil and paper or manipulatives with them.

You will try some different ways to solve problems in your head. The next time you need a quick answer to a problem, you will be able to do it, too.



## Lesson 1

How many can you do in five minutes? Watch the signs!

a.  $20$

$$\begin{array}{r} 20 \\ - 15 \\ \hline \end{array}$$

e.  $43$

$$\begin{array}{r} 43 \\ - 34 \\ \hline \end{array}$$

i.  $17$

$$\begin{array}{r} 17 \\ + 3 \\ \hline \end{array}$$

m.  $14$

$$\begin{array}{r} 14 \\ - 12 \\ \hline \end{array}$$

q.  $14$

$$\begin{array}{r} 14 \\ + 2 \\ \hline \end{array}$$

b.  $63$

$$\begin{array}{r} 63 \\ - 41 \\ \hline \end{array}$$

f.  $35$

$$\begin{array}{r} 35 \\ + 61 \\ \hline \end{array}$$

j.  $53$

$$\begin{array}{r} 53 \\ + 47 \\ \hline \end{array}$$

n.  $14$

$$\begin{array}{r} 14 \\ - 10 \\ \hline \end{array}$$

r.  $28$

$$\begin{array}{r} 28 \\ + 35 \\ \hline \end{array}$$

c.  $33 - 21 =$

g.  $19 - 9 =$

k.  $79 - 53 =$

o.  $32 - 15 =$

s.  $16 - 3 =$

d.  $19 - 16 =$

h.  $67 - 58 =$

l.  $30 + 5 =$

p.  $20 - 9 =$

t.  $60 + 28 =$

How many did you do?

2. Solve these problems. For each problem, write the number sentence include the addition or subtraction sign. Then answer the problem in a sentence.

- a. The toy Jasper wants to buy costs 55¢. Now he sees that it is on sale for 39¢. How much money will Jasper save by buying the toy on sale?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$



- b. Elena counted 79 marbles in her bag. Jasper has 86 marbles. How many more marbles does Jasper have than Elena?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

In this problem, help the student understand that seven dimes is 70¢ and that the equation will be  $74 - 6$ .

- c. Elena has 7 dimes and 4 pennies. Jasper has 6 pennies. How much more money does Elena have than Jasper?

$$\boxed{\phantom{00}} - \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

---

---

## Lesson 2

Jasper and Elena were in Edson visiting friends. They wanted to take the bus to Hinton to visit another friend. They counted their money. Jasper had 28 dollars and Elena had 37 dollars. They didn't have paper handy, so they couldn't add up what they had. What could they do?

They had to imagine adding 28 and 37 in their heads. How could they do this? Do you have any idea?

Jasper and Elena decided they would round one of the numbers to the nearest ten.



Remember when you were rounding numbers? Do you remember the rules for rounding? How would you round 28 to the nearest ten?

This is how Jasper and Elena solved their problem.

$$28 + 37$$

They rounded 28 to the nearest ten.

**28 rounds to 30**

The nearest ten is 30. Then they broke 30 into tens.



They added the three tens to 37.

$$37 + 10 + 10 + 10$$

$$37 + 10 + 10 + 10 = 67$$

The sum is 67. Then they subtracted 2 from 67.

Let the student figure out the answer to each question before continuing to the next step. Review the rounding rules with the student.

Why did they do that?

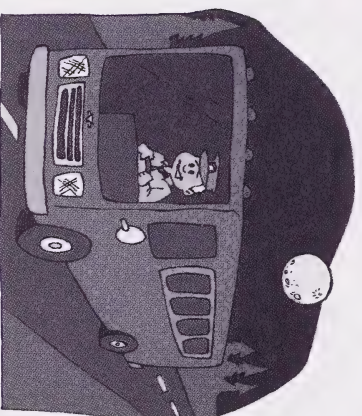
They added 2 to 28 in the first step when they rounded 28 to 30. Since they wanted to know exactly how much money they had, they had to take away the 2 they added.

$$67 - 2 = 65$$

Now Jasper and Elena had their answer.  $28 + 37 = 65$

Together, they had 65 dollars to buy bus tickets to Hinton.

You can figure out how to add and subtract in your head, too.



Practise with some more equations.

1.  $49 + 32$

a. Round 49 to the nearest ten.

b. How many tens is that?

c. Add the tens to 32.  $32 +$    $+$    $+$    $+$    $+$    $=$

d. Subtract 1 from the total.   $- 1 =$

e.  $49 + 32 =$

2.  $28 + 59$

a. Round 28 to the nearest ten.

$24 + 25 =$

Here is another way of adding large numbers.

b. How many tens is that?

$24 + 10 + 10 + 5 =$

You know how to count by tens, so count on from 24.

24, . . . , 34, 44.

c. Add the tens to 59.

$$59 + \boxed{\phantom{00}} + \boxed{\phantom{00}} + \boxed{\phantom{00}} = \boxed{\phantom{00}}$$

Now add the 5. You know  $4 + 5 = 9$ .

d. Subtract 2 from the total.

$$\boxed{\phantom{00}} - 2 = \boxed{\phantom{00}}$$

So,  $44 + 5 =$

$24 + 25 = 49$

e.  $28 + 59 =$



4. Practise with this equation. Do it in your head. Fill in the boxes without using manipulatives.

$$31 + 42 = \boxed{\phantom{00}}$$

a. 31 +  +  +  +

b. 31, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_,

$$c \cdot +2 =$$

d.  $31 + 42 =$



Try it again.

5.  $52 + 27 =$

6.  $63 + 35 =$

a.

 +  +  + 

a.

 +  +  +  + 

b.

, , 

b.

, , , 

c.

 +  = 

c.

 +  = 

d.  $52 + 27 =$

d.  $63 + 35 =$

### Lesson 3

You can subtract large numbers in your head, too. This is one way of doing it.

Remember rounding one of the numbers to the nearest ten when you were adding? This is the same method.

$$57 - 29 = \boxed{\phantom{00}}$$

Round 29 to the nearest ten. **30**

Subtract.  **$57 - 30 = 27$**

Add 1 to 27.  **$27 + 1 = 28$**

Why do you add 1? Remember, you subtracted the extra 1 you added on to 29, so now you must add it back.

$$57 - 29 = 28$$

Try this one.

1.  $46 - 17 =$

Now do one without any clues.

2.  $81 - 48 =$

a. Round 17 to the nearest ten.

a.

b. Subtract.

-

=

b.

-

=

c. Add 3 to 26.

+

=

c.

+

=

d.  $46 - 17 =$

d.  $81 - 48 =$



Can you think of other ways to subtract large numbers in your head?

Try this way.

$46 - 19 =$

Count up in steps from 19 to 46.

$$1+10+10+6=27$$

1 10 10 10 6 6

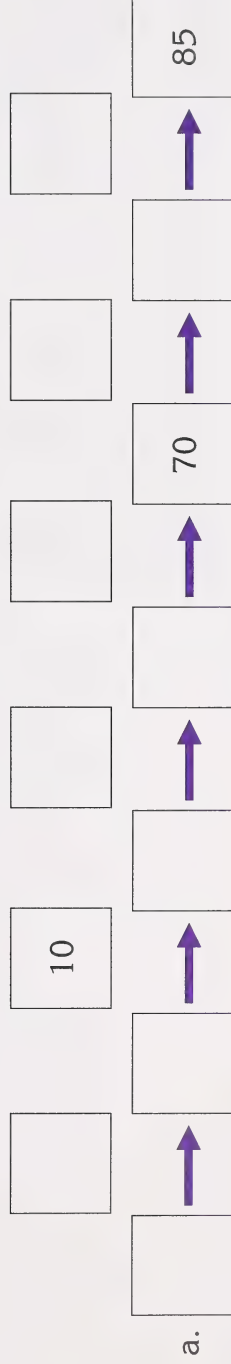
19 → 20 → 30 → 40 → 46

$$46 - 19 = 27$$

You add the numbers between the two to come up with the difference.

Try these. Fill in the boxes.

3.85-38



b.  $\square + \square + \square + \square + \square + \square = \square$

c.  $85 - 38 = \square$

4.  $73 - 47$

$\square$     $\square$     $\square$     $\square$

a.  $\square \xrightarrow{47} \square \xrightarrow{60} \square \xrightarrow{73} \square$

b.  $\square + \square + \square + \square = \square$

c.  $73 - 47 = \square$

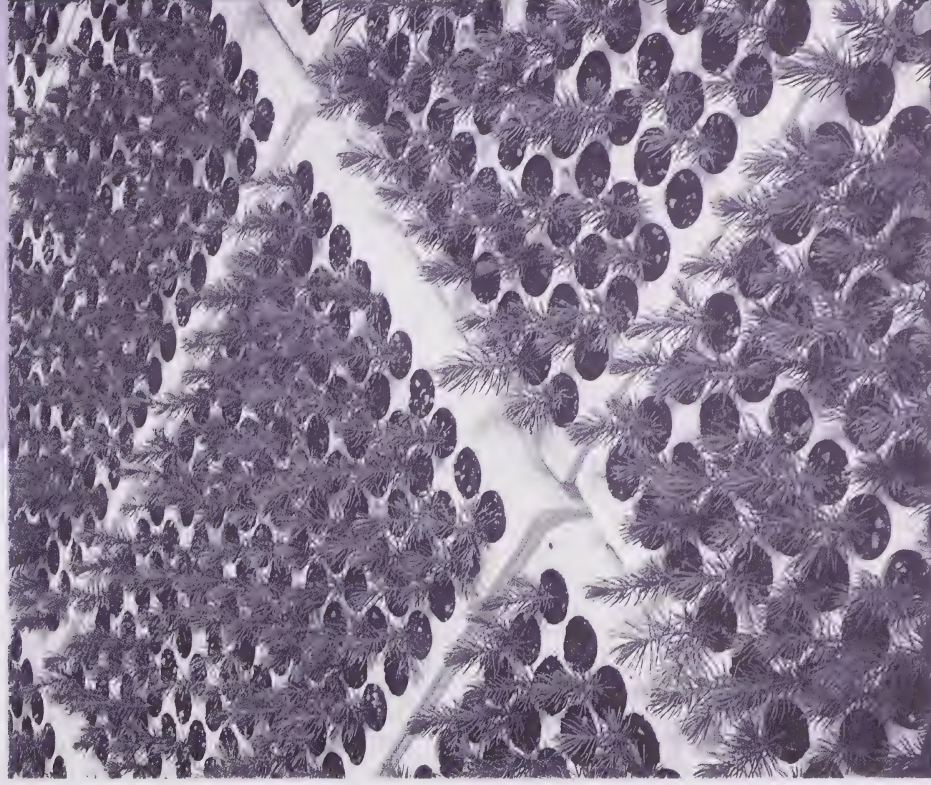
## Day 18: Estimating Figures

Doing problems in your head is easy when you can estimate an answer. You can do that when you just want to know about how much the answer is. It does not need to be exact.

You will round numbers up or down to the nearest ten to estimate answers today.

At the end of the day, you will be able to play a game with your home instructor and a calculator.

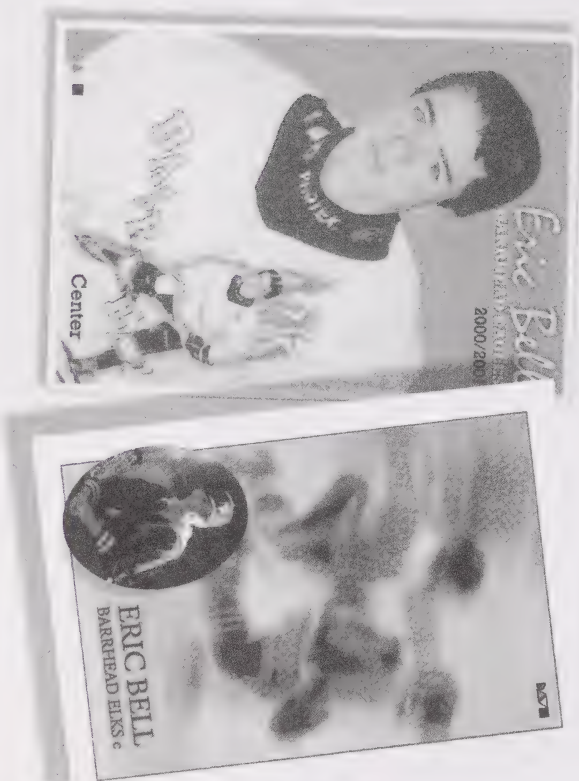
Have fun!



### Lesson 1

Jasper's friend Aisha asked him about how many hockey cards he had in his collection. Jasper knows he has 56 cards in one album and 38 cards in his other album. He tried to think about how many cards he had in all.

Jasper thought of using a metre stick to help him estimate. He quickly got his answer. How do you think he came up with an answer so quickly?





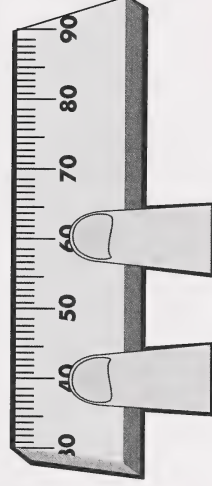
This is how he did it.

In his mind, Jasper put his fingers on the numbers 38 and 56 on the metre stick.

Next, he slides his fingers to the nearest tens. **40 and 60**

Then he added the tens.  **$40 + 60 = 100$**

Jasper told Aisha he has about 100 hockey cards.



See how quickly you can estimate the answer to this question.

1.  $27 + 62 =$

Imagine putting your fingers on 27 and 62 on a metre stick.

a. Slide your fingers to the nearest tens.

,

b. Add the tens.  $\square + \square = \square$

c.  $27 + 62$  is about  $\square$ .

Try these without the clues. Do the estimate in your head first.

2.  $49 + 31 = \square$

3.  $18 + 63 = \square$

a.  $\square, \square$

a.  $\square, \square$

b.  $\square + \square = \square$

b.  $\square + \square = \square$

c.  $49 + 31$  is about  $\square$ .

c.  $18 + 63$  is about  $\square$ .

4.  $33 + 19 =$

a. ,

b.  +  =

c.  $33 + 19$  is about .

6.  $51 + 48 =$

a. ,

b.  +  =

c.  $51 + 48$  is about .

5.  $77 + 19 =$

a. ,

b.  +  =

c.  $77 + 19$  is about .

**Lesson 2**

Elena wanted to know about how much money she had in her wallet. She knew she had 71¢ yesterday. She bought a comic book today for 48¢. Elena does not want to know exactly how much money she has. She wants an estimate.

Elena remembered Jasper told her how he imagines a metre stick when he needs to estimate large numbers. Elena decided to try it.





Elena thought of a metre stick. She put her two fingers on 48 and 71.

She then slid her fingers to the nearest tens: **50 and 70**

Then she counted on by tens. **50, . . . 60, 70**

That's two tens. The answer is 20.

Now Elena knows that she has about 20¢ in her pocket.

See how quickly you can estimate the answer to this one. Remember, you are subtracting now.

1.  $97 - 48 =$

Imagine a metre stick. Put your fingers on 48 and 97.

- a. Slide your fingers to the nearest tens. ,

Count on by tens. 50, . . . 60, 70, 80, 90, 100

- b. How many tens is that?

c.  $97 - 48$  is about

.

Try these without the clues. Do the estimate in your head first.

2.  $73 - 35 =$

a. Put your fingers on

and

.

b. The nearest tens are

and

.

c. Count on by tens.

,

,

,

d. How many tens is that?

e.  $73 - 35$  is about

.


3.  $58 - 19 =$

a.  and

b.  and

c. , , ,

d.

e.  $58 - 19$  is about .

4.  $66 - 37 =$

a.  and

b.  and

c. , ,

d.

e.  $66 - 37$  is about .

### Estimating Game

Play this estimating game with your home instructor. You will need a calculator.

See how close you can get to 100. Play up to seven rounds of this game. You can use a number more than once.

1. Look at the numbers in the box. Choose two numbers that you estimate will give a sum close to 100.
2. Use your calculator to find the total of the numbers you chose. Record the sum under your name. Your home instructor will then record his or her sum.
3. Circle the sum that is closer to 100.
4. Talk about the estimation strategies you used.





Your Name			Home Instructor's Name		
95	29	63			
27	72	48			
31	53	18			
19	20	39			
90	50	14			
77	46	30			
35	22	8			



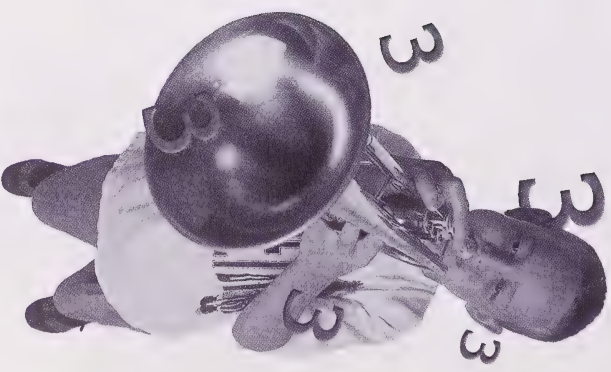
Go to Assignment Booklet 3B.



You have now completed Module 3: Having Fun Adding and Subtracting. You added and subtracted small and big numbers.

These are the ways you had fun adding and subtracting:

- using manipulatives and pictures to show and describe how to add and subtract numbers
- using addition and subtraction to solve story problems
- adding and subtracting two-digit numbers in different ways
- using different ways of estimating and doing math in my head to add and subtract.

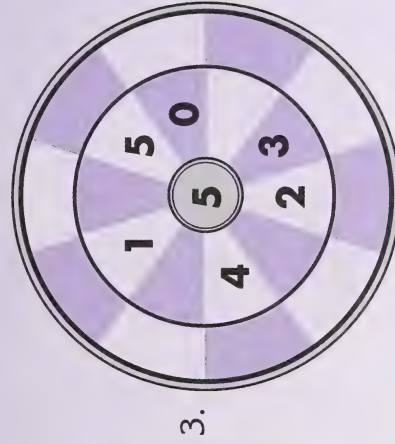
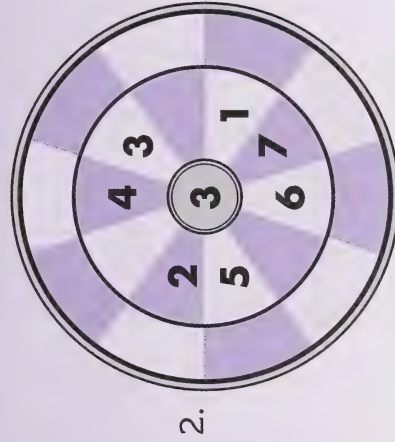
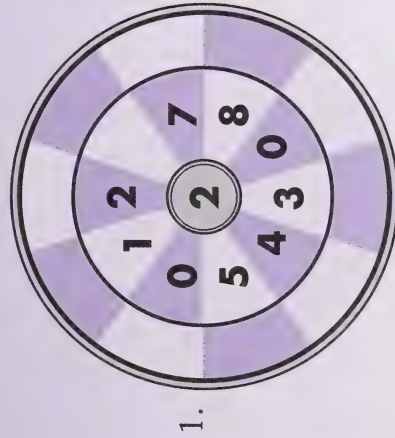


## Days 2 to 9

(The following activities can be used on Days 2 to 9.)

### Activity 1

Add the numbers in the middle circle to the number in the centre circle. Print the sum on the outer circle.



4. In the outer circles only, colour the even numbers blue and the odd numbers pink.

# Extension Activities

## Activity 2

Add the numbers and colour the clouds.

3 = red  
4 = blue  
5 = green  
6 = yellow  
7 = orange  
8 = purple  
9 = brown  
10 = pink

1.

$$3 + 2 =$$

2.

$$\begin{array}{r} 3 \\ + 3 \\ \hline \end{array}$$

3.

$$7 + 1 =$$

4.

$$\begin{array}{r} 3 \\ + 5 \\ \hline \end{array}$$

5.

$$4 + 6 =$$

6.

$$\begin{array}{r} 8 \\ + 2 \\ \hline \end{array}$$

7.

$$1 + 9 =$$

8.

$$\begin{array}{r} 5 \\ + 4 \\ \hline \end{array}$$

9.

$$2 + 1 =$$

10.

$$\begin{array}{r} 2 \\ + 4 \\ \hline \end{array}$$

11.

$$10 + 0 =$$

12.

$$7 + 2 =$$

13.

$$2 + 2 =$$



### Activity 3

Play this card game with your home instructor using playing cards or the Number Playing Cards in the Appendix.

If using playing cards, use the ace to number nine. The ace will represent the number one. You and your home instructor each turn over one card. The first player to say the sum wins both cards. The player who has all the cards wins the game.

This game can be played using subtraction, too. When you turn over the two cards, subtract the smaller number from the larger number. The first player to say the difference wins both cards.

### Activity 4

Use the Tic-Tac-Toe boards and the Equations for the Tic-Tac-Toe Game in the Appendix. Either you or your home instructor can call out the equations. Put a chip on the correct answer. The first person to get a line wins.

### Activity 5

You will need your calculator for this.

Find the answers to each of the subtraction sentences using the calculator. You can use only the plus key to help you find the answer.

## Extension Activities

Use the minus key to check your answer.

Write the addition sentences you used for each.

1.  $53 - 17$  \_\_\_\_\_

2.  $67 - 39$  \_\_\_\_\_

3.  $41 - 24$  \_\_\_\_\_

4.  $86 - 59$  \_\_\_\_\_

5.  $22 - 13$  \_\_\_\_\_

6.  $75 - 47$  \_\_\_\_\_

### Activity 6

You will need dice for this game. You and your home instructor should each have a Number Line from the Appendix. Take turns tossing the dice twice. Name the total of the two tosses and put a marker on that number on your Number Line. The first person to have markers on all the numbers wins.

### Activity 7

Your home instructor will say a number between 0 and 10. On a piece of paper, write as many equations as you can that add up to that number.

### Activity 8

Spin the Spinning Wheel twice. Give the difference between the two numbers the spinner lands on. See how many you can answer in two minutes. Then try it again for two minutes to see if you can better your first try.

### Activity 9

Cut two sections off an egg carton. Randomly write numbers 1 through 10 in each remaining cup of the egg carton. First throw one bean, then another. Give the difference between the two numbers.

### Day 10

Here's a review of ways to help you add. See if you remember them. Read each one with your home instructor and do the exercises.

## Extension Activities

### 1. Turning Numbers Around

Either way you add numbers, the answer is the same.

Turn these around. An example has been done for you.

$$7 + 3 = 10 \qquad 3 + 7 = 10$$

a.  $8 + 4 =$

\_\_\_\_\_

b.  $6 + 2 =$

\_\_\_\_\_

c.  $9 + 7 =$

\_\_\_\_\_

d.  $1 + 4 =$

\_\_\_\_\_

e.  $6 + 10 =$

\_\_\_\_\_

f.  $8 + 6 =$

\_\_\_\_\_

g.  $9 + 5 =$

\_\_\_\_\_



## 2. Counting On

When one of the numbers is 1, 2, or 3, start with the larger number and count on. Count on with these.

a.  $6 + 2 =$

e.  $3 + 4 =$

i.  $9$   
 $+ 3$   

---

m.  $8$   
 $+ 3$   

---

b.  $8 + 2 =$

f.  $3 + 12 =$

j.  $3$   
 $+ 13$   

---

n.  $2$   
 $+ 15$   

---

c.  $1 + 15 =$

g.  $13 + 3 =$

k.  $2$   
 $+ 11$   

---

d.  $10 + 2 =$

h.  $3 + 7 =$

l.  $16$   
 $+ 2$   

---

## Extension Activities

### 3. Using Doubles

When the numbers are the same, think of double dominoes. Use doubles to add these numbers.

a.  $4 + 4 =$

c.  $2 + 2 =$

e.  $3 + 3 =$

g.  $1 + 1 =$

i.  $6 + 6 =$

b.  $5 + 5 =$

d.  $7 + 7 =$

f.  $10 + 10 =$

h.  $9 + 9 =$

j.  $8 + 8 =$

### 4. Adding 1 to Doubles

When one number is 1 more than the other number, add 1. Add 1 to doubles.

a.  $5 + 4 =$

c.  $7 + 8 =$

e.  $8 + 9 =$

g.  $4 + 3 =$

b.  $9 + 10 =$

d.  $7 + 6 =$

f.  $5 + 6 =$

h.  $3 + 4 =$

## 5. Adding 0

When you add 0 to any number, the number stays the same. Add 0 to these numbers.

a.  $0 + 8 =$   e.  $11 + 0 =$

b.  $0 + 44 =$   f.  $99 + 0 =$

c.  $0 + 72 =$   g.  $31 + 0 =$

d.  $15 + 0 =$   h.  $68 + 0 =$

## 6. Adding to 10

When one of the numbers is a 7, 8, or 9, make 10 and add the rest.

a.  $4 + 7 =$   e.  $7 + 6 =$   i.  $9 + 5 =$

b.  $6 + 9 =$   f.  $8 + 4 =$   j.  $7 + 5 =$

c.  $3 + 8 =$   g.  $9 + 7 =$

d.  $8 + 5 =$   h.  $9 + 3 =$

## Extension Activities

### 7. Numbers That Are Two Apart

When the numbers are two apart, go to the number between them and double it.

a.  $6 + 4 =$

c.  $\begin{array}{r} 4 \\ + 6 \\ \hline \end{array}$

e.  $\begin{array}{r} 7 \\ + 9 \\ \hline \end{array}$

g.  $8 + 10 =$

i.  $\begin{array}{r} 3 \\ + 1 \\ \hline \end{array}$

b.  $9 + 11 =$

d.  $3 + 5 =$

f.  $\begin{array}{r} 5 \\ + 7 \\ \hline \end{array}$

h.  $\begin{array}{r} 6 \\ + 8 \\ \hline \end{array}$

j.  $\begin{array}{r} 9 \\ + 7 \\ \hline \end{array}$

### Day 11

Here's a review of ways to help you subtract. See if you remember them. Read each one with your home instructor and do the exercises.



## 1. Using 0

When you take a number away from itself, you are left with 0.

When you take away 0 from any number, the number stays the same.

a.  $18 - 18 =$

c.  $94 - 0 =$

e.  $16 - 0 =$

g.  $32 - 32 =$

b.  $71 - 0 =$

d.  $6 - 0 =$

f.  $100 - 100 =$

h.  $26 - 26 =$

## 2. Doubles

When you subtract half the number, think of doubles.

a.  $10 - 5 =$

c. 
$$\begin{array}{r} 6 \\ - 3 \\ \hline \end{array}$$

e. 
$$\begin{array}{r} 14 \\ - 7 \\ \hline \end{array}$$

g.  $20 - 10 =$

b.  $12 - 6 =$

d.  $18 - 9 =$

f. 
$$\begin{array}{r} 16 \\ - 8 \\ \hline \end{array}$$

h. 
$$\begin{array}{r} 10 \\ - 5 \\ \hline \end{array}$$

## Extension Activities

### 3. Counting Back

When you take away 1, 2, or 3 from a number, start with the bigger number and count back.

a.  $12 - 3 =$

c.  $17$

$-2$

e.  $19$

$-3$

g.  $18 - 2 =$

i.  $16$

$-2$

b.  $8 - 3 =$

d.  $14 - 1 =$

f.  $11$

$-3$

h.  $10$

$-1$

j.  $7$

$-3$

### 4. Counting On

When the numbers are close, count on from the smaller number.

a.  $18 - 16 =$

b.  $9 - 6 =$

c.  $7$

$-5$

d.  $11 - 9 =$

e.  $16$

$-15$

$$\begin{array}{r} \text{f. } 19 \\ -17 \\ \hline \end{array}$$

$$\begin{array}{r} \square \\ 15 - 14 = \square \end{array}$$

$$\begin{array}{r} \text{h. } 20 \\ -17 \\ \hline \end{array}$$

$$\begin{array}{r} \text{i. } 15 \\ -12 \\ \hline \end{array}$$

$$\begin{array}{r} \text{j. } 10 \\ -8 \\ \hline \end{array}$$

## 5. Related Families

When you're subtracting, think of the related addition fact.

$$\begin{array}{r} \square \\ 14 - 6 = \square \end{array}$$

$$\begin{array}{r} \text{c. } 13 \\ -6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{e. } 12 \\ -4 \\ \hline \end{array}$$

$$\begin{array}{r} \square \\ 11 - 7 = \square \end{array}$$

$$\begin{array}{r} \text{i. } 11 \\ -8 \\ \hline \end{array}$$

$$\begin{array}{r} \square \\ 15 - 8 = \square \end{array}$$

$$\begin{array}{r} \text{f. } 16 \\ -7 \\ \hline \end{array}$$

$$\begin{array}{r} \square \\ 13 - 5 = \square \end{array}$$

$$\begin{array}{r} \text{h. } 17 \\ -9 \\ \hline \end{array}$$

$$\begin{array}{r} \text{j. } 18 \\ -8 \\ \hline \end{array}$$

# Extension Activities

## Days 14 to 18

(These activities may be done between Days 14 and 18.)

### Activity 1

How old am I?

If you add the ages of the children in my family, they equal 11.

There are two children in my family.

I am three years younger than my brother.

How old is my brother?

Hint: What numbers add up to 11?

### Activity 2

Guess What Number

I am halfway between 4 and 16.



I am halfway between 10 and 40.

I am halfway between 15 and 45.

I am more than 50 and less than 60. I am an odd number. If you add the two digits in my number, they equal 8.

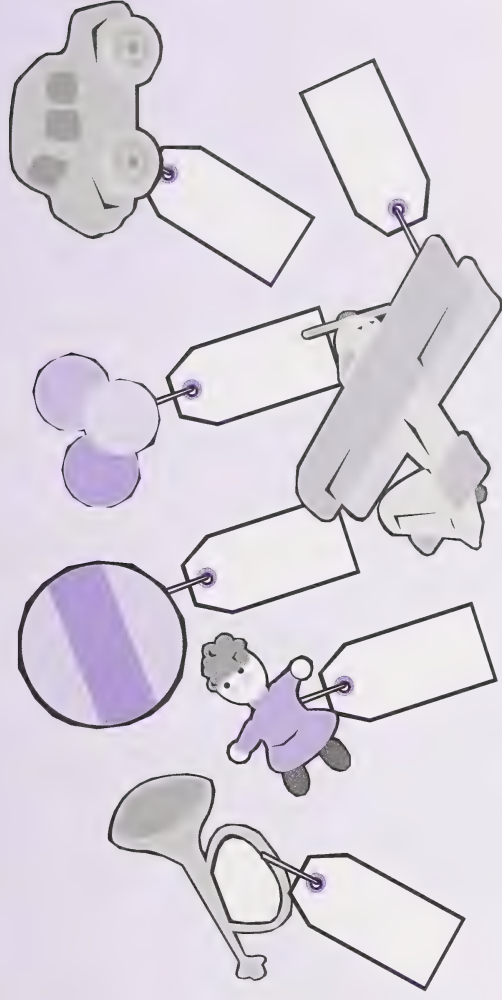
Hint: A number line or metre stick might be helpful.

### Activity 3

#### How Much Did It Cost?

You bought two items. You spent 85¢. If one item cost 45¢, what did the other cost? Write the numbers on the price tags.

Buy two different items for your home instructor for 63¢. If one item cost 30¢, what does the other cost? Write the numbers on the price tags.



# Extension Activities

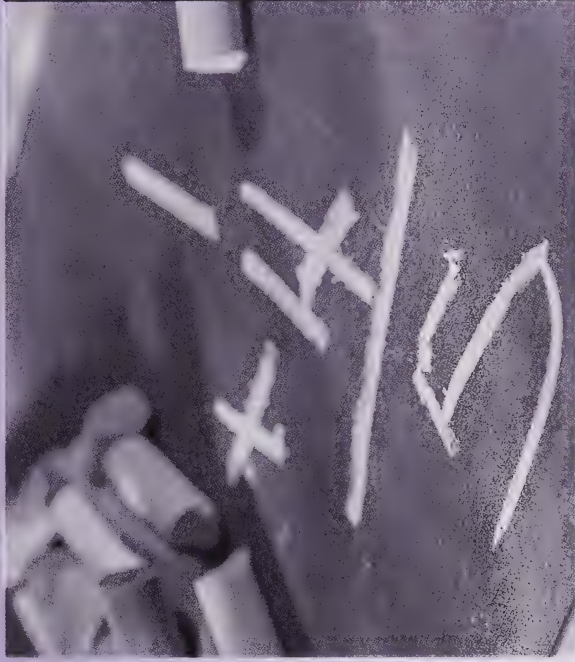
## Activity 4

1. If you subtract me from 75, you get 50. If you add me to 30, you get 55. What number am I?
2. If you subtract me from 27, you get 13. If you add me to 46, you get 60. What number am I?
3. If you subtract me from 99, you get 32. If you add me to 18, you get 85. What number am I?
4. If you subtract me from 71, you get 51. If you add me to 80, you get 100. What number am I?
5. If you subtract me from 16, you get 9. If you add me to 25, you get 32. What number am I?



# Appendix

**Image Credits**  
**Domino Cards**  
**Place-Value Mat**  
**Number Playing Cards**  
**Tic-Tac-Toe Boards**  
**Equations for Tic-Tac-Toe Game**  
**Number Lines**  
**Spinning Wheel**



# Appendix

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Page

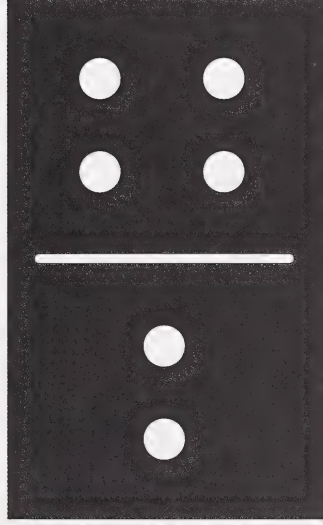
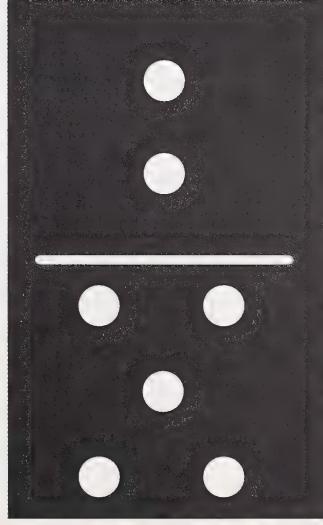
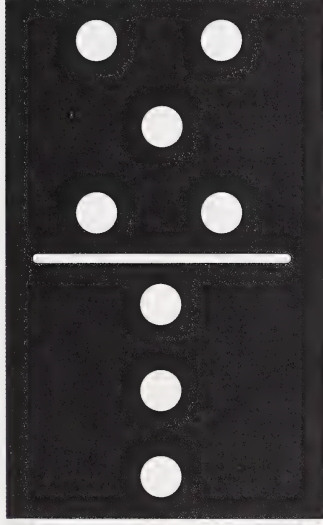
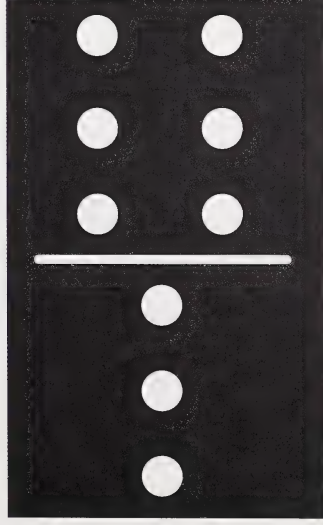
1	top: PhotoDisc, Inc.; bottom: EyeWire, Inc.
2	EyeWire, Inc.
6	EyeWire, Inc.
13	Corel Corporation
17	Corel Corporation
23	EyeWire, Inc.
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67	PhotoDisc, Inc.
79	PhotoDisc, Inc.
89	PhotoDisc, Inc.
92	Corel Corporation
114	EyeWire, Inc.
135	EyeWire, Inc.
149	EyeWire, Inc.
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Appendix title page: EyeWire, Inc.





# Domino Cards





Ones	
Tens	





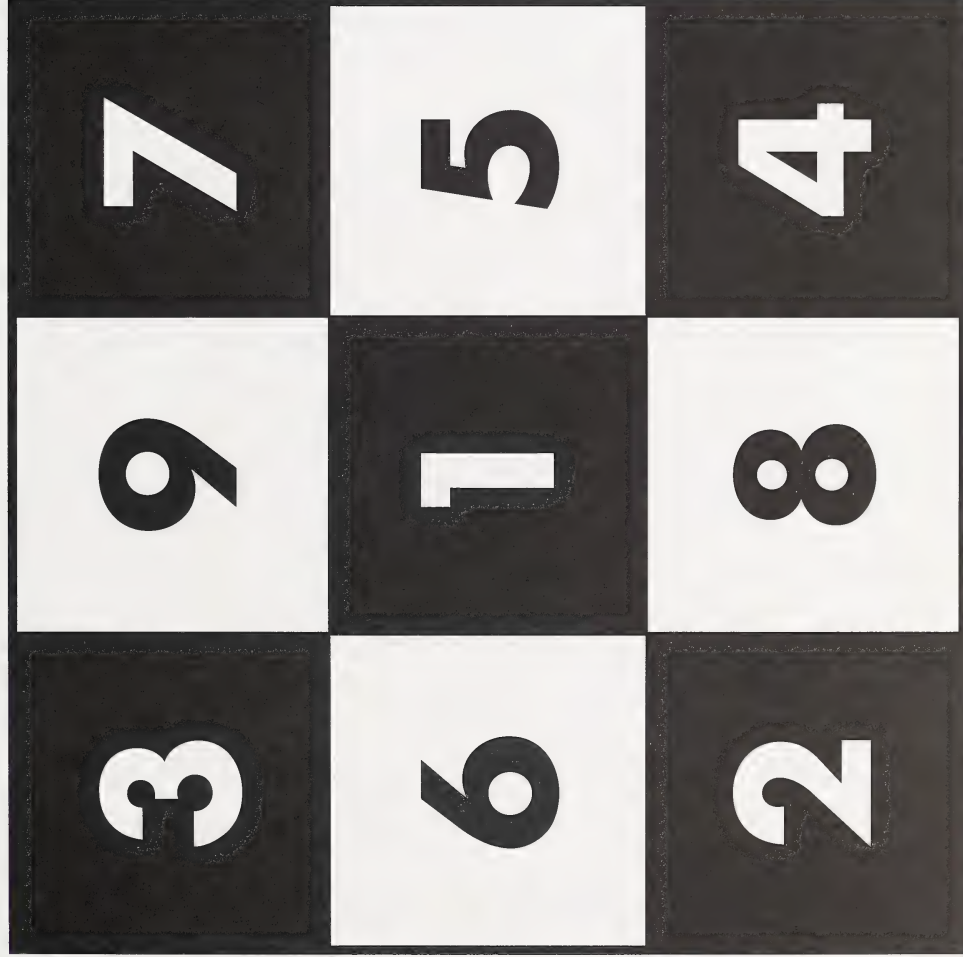
**Number Playing Cards**

1	2	3	4	5	10
6	7	8	9		





## Tic-Tac-Toe Boards







8	6	9
2	4	3
5	1	7





## Equations for Tic-Tac-Toe Game

$$5 + 1 =$$

$$6 + 3 =$$

$$7 + 2 =$$

$$4 + 1 =$$

$$3 + 3 =$$

$$2 + 1 =$$

$$5 + 3 =$$

$$4 + 4 =$$

$$3 + 2 =$$



# Appendix

$$1 + 3 =$$

$$5 + 2 =$$

$$1 + 0 =$$

$$4 + 5 =$$

$$3 + 4 =$$

$$3 + 0 =$$

$$1 + 1 =$$

$$2 + 2 =$$

$$0 + 1 =$$





$$2 + 0 =$$

$$4 + 2 =$$

$$10 - 6 =$$

$$9 - 4 =$$

$$10 - 4 =$$

$$7 - 5 =$$

$$5 - 3 =$$

$$6 - 3 =$$

$$8 - 2 =$$



## Appendix

$$9 - 3 =$$

$$4 - 1 =$$

$$7 - 3 =$$

$$7 - 4 =$$

$$9 - 0 =$$

$$10 - 3 =$$

$$8 - 7 =$$

$$6 - 4 =$$

$$9 - 2 =$$



$$9 - 1 =$$

$$10 - 2 =$$

$$10 - 1 =$$

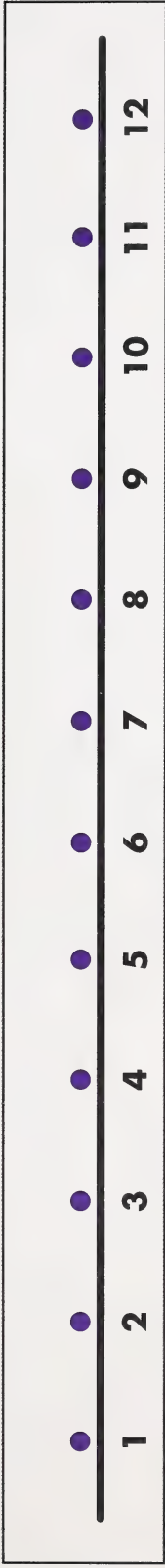
$$7 - 6 =$$







# Number Lines





## Spinning Wheel

